Abstract

This study evaluates the medicinal potential of Sterculia parviflora leaves, focusing on its thrombolytic and antipyretic properties. The ethanolic extract of Sterculia parviflora was subjected to screening, revealing various bioactive compounds. The thrombolytic activity test showed a 25% clot lysis compared to streptokinase's 44.2%, indicating potential as a natural thrombolytic agent. Additionally, the antipyretic activity test demonstrated significant effects, with the extract reducing fever by 32.2% and 50% at doses of 250 mg/kg and 500 mg/kg respectively, relative to aspirin's 100% efficacy. These findings suggest Sterculia parviflora as a promising candidate for managing thrombotic disorders and fever-related conditions, warranting further clinical investigation.

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Chapter One

Introduction

1.1 General Introduction

Nature is an incredible source of information and has all the answers to human issues [1]. In the past, plants—which continue to be a key source of innovative medicines today—were the source of almost all medications [2]. The importance of doing botanical, chemical, and pharmacological investigations of plant-derived compounds used to treat human ailments has come to light more and more in recent decades [3]. One may use plants for many purposes. The history of natural products is relatively new, having begun when the first humans became conscious of their environment [4]. It is said that for the better part of his two or three million years on Earth, cultured and civilized man has fought for survival [5]. A secret to sorting the beneficial dangerous plants has been found after more than a decade of research. Since then, all civilizations have used herbs as a primary source of medicine [6]. Clinical microbiologists are interested in antimicrobial plant extracts for two reasons. First off, it's quite likely that some of these phytochemicals—which are already being tested on humans—will find their way into the prescription drugs that physicians use as antimicrobials [7]. Reportedly, each year two or three novel antibiotics derived from microorganisms are introduced (Clark, 1996). The pace has picked back up following a recent pause, since scientists have learned that the effective life span of any antibiotic is limited [8]. Global spending on the creation of innovative anti-infective medications, including vaccines, is expected to increase by 60% from 1993 levels (J, 1998) [9]. New sources are also being investigated, especially those derived from plants. Second, the public is becoming more aware of the issues surrounding the overprescription and misuse of traditional antibiotics [10]. Another desire shared by many is more control over one's medical care. Many plant components, often of dubious purity, are used for self-medication, and they are readily available over-the-counter from herbal suppliers and natural food stores. Plant extracts have become more and more popular when used in conjunction with other alternative therapies in the late 1990s [11]. A survey conducted previous to this decade revealed that more than one-third of Americans had at least one "unconventional" therapy attempt in the year before (David M. Eisenberg, 1993). Reports state that sales of herbal treatments increased 37% in 1996 over 1995 (B, 1997). According to a theory, Americans are reacting to the overprescription of sometimes dangerous drugs in a similar way as their forebears in the 19th century (see below) responded to the abuse of calomel, bleeding, and purging (A, 1997) [12].

1.2 Status of medicinal plants in Bangladesh

Bangladesh is a country on the Indian subcontinent with a very wide variety of flora. This subcontinent is home to over 2,000 medicinal plants, 449 of which are registered in Bangladesh

(Ghani, 1998) [13]. Many common medical herbs have been used traditionally by kavirajes as traditional remedies, while the exact number of plants used is unknown. The existence of several tribes with unique cultures, such the Chakma, Marma, Rakhain, Tipra, Garo, and Khashia, has further improved the use of therapeutic plants [14]. This old kind of treatment has managed to endure despite modern medicine's tremendous conquest because to people's faith in mother nature. As such, ancestors have acquired from their ancestors the knowledge pertaining to the application of medicinal plants (Pavel P, 2007) [15].

1.3 Medicinal Plants in World Market

The biggest international markets for MAPs are China, France, Germany, Italy, Japan, Spain, the United Kingdom, and the United States. The world's highest per capita consumption of herbal remedies is found in Japan. (Laird, 1999). In 2001 and 2002, the International Council for Medicinal and Aromatic Plants predicts that the world would expand by 8–10% year. (Srivastava (2000) [16]. In 1999, the market for herbal remedies was estimated to be worth US$19.4 billion, with US$6.7 billion coming from Europe, US$5.1 billion from Asia, US$4.0 billion from North America, US$2.2 billion from Japan, and US$1.4 billion from the rest of the globe. (S. A. Laird, 2002). India is a major supplier of both processed and raw plant-based medicines (MAPs). India exported essential oils worth $13,250 million and crude medications worth $53,219 million between 1994 and 1995. It was projected that Chinese sales of botanical medicinal products will reach $5 billion by 1995. Lambert (1997) [17].

1.4 Importance of medicinal plants

Medicinal plants are used in the culinary, cosmetic, pharmaceutical, and agricultural sectors. The history of every culture shows that medicinal plants have been used to treat disease [18]. It's probable that prehistoric man was ignorant of the health hazards associated with nonsensical treatment. As research into medicine progressed, it was found that plants contain active compounds that give herbs their medicinal qualities [19]. Mankind solely used medicinal plants until the invention of the synthetic era for both sickness prevention and treatment. With the development of scientific methods, the researchers were able to understand the toxic principles included in the green flora. After separating and testing some of the active components of the medicinal plants, the scientists found that some of them had therapeutic properties. Aconitine, lobeline, nicotine, strychnine, digoxin, atropine, and morphine are a few examples of common drugs. Medicinal plants have provided humanity with a vast array of potent medications that have the potential to either completely cure or alleviate a variety of illnesses and disorders,

even in the face of advances in synthetic medicines. However, several of these medications are still useful today. Worldwide, the use of plant-based pharmaceuticals is growing in popularity. (KKP, 1995) Modern (synthetic) medicine has advanced, yet there are still numerous infections and illnesses (diseases) for which there are no reliable cures. As a result, it is now vitally required to produce safer drugs to treat inflammatory disorders, diabetes, liver diseases, and gastrointestinal problems for both people and the environment [20]. Current research on herbal treatments or plants has led to substantial advancements in the pharmacological evaluation of many plants used in traditional medicinal systems. Therefore, plants may be regarded as an important source of medicinal compounds, acting as both discrete active chemicals that need to be given in standardized dosage forms and the fundamental medications used by the general public. In many developing countries, particularly in Africa, Asia, and certain areas of Europe, the employment of contemporary drugs and herbal medicines enhances each other in healthcare initiatives. Due to the variable outcomes of using herbal plants and the belief that many herbal cures have no adverse consequences on the environment or human health, plant products are found all over the world. (M. Angell, 1998) (PA, 1995) [21].

1.5 Significant and Rationale properties of medicinal plant

Plants have been utilized as medicine for illnesses from the dawn of human history. The identification of the therapeutic properties of medicinal plants has been tremendously aided by widespread usage and observations of their efficiency, even though the precise chemical makeup of these plants is not always recognized. For example, senna alatae has long been used to treat bacterial and fungal illnesses. Additionally, they displayed varying degrees of antifungal and antibacterial activities that oppose pathogens. According to research, flavonoids have stronger antifungal and antibacterial qualities against a few harmful fungi and bacteria that might harm people. (Owoyale JA, 2005) The therapeutic activity of a medicinal plant is attributed to the presence of certain bioactive components. To find these advantageous components, phytochemical screening methods such as thin-layer chromatography and phytochemical tests are employed [22]. Medicinal plants' antibacterial activity and other secondary metabolites such as flavonoids, terpernoids, alkaloids, and tannins are what determine how successful they are as medicines. (Evans WC, 2002) Related phytochemical elements, such as flavonoids and tannins, have also been demonstrated to be effective against pathogenic bacteria, such as Bacillus cereus and Staphylococcus aurous. (A. Kumar, 2008) Tannins, found in medicinal plants, are vital ingredients in antibacterial soap, which is widely used for washing and cleansing skin. Phytochemicals have been demonstrated in the literature

to be poisonous to bacteria, yeasts, and filamentous fungi, as well as to inhibit viral reverse transcriptase (WC, 2002). Saponins have been reported to be an important constituent acting as a secondary metabolite with antifungal properties. Since tannins, phenols, steroids, and saponins have been found to have a range of physiological functions, it is possible that these substances are responsible for the antibacterial impact. (FC, 2004) [23].

1.6 Thrombolytic agent

A medicine with the power to dissolve a thrombus and clear an artery or vein. Thrombolytic medications are prescribed to treat peripheral artery or indwelling catheter blockages, heart attacks, strokes, and pulmonary embolism [24]. Example: Streptokinase, S-kinase.

1.7 Phytochemical Basis

Every plant produces chemical substances that aid in their evolutionary process. One such chemical that plants produce and employ as a hormone to protect themselves from herbivores is salicylic acid. The content and proven pharmacological effect of these phytochemicals in medicinal plants, if scientifically confirmed, offer the basis for their potential use as medicines in modern medicine. For instance, there are nine families of alkaloids found in daffodils (Narcissus), and galantamine is one of them that has been licensed for use as an Alzheimer's disease therapy. The bitter-tasting and deadly alkaloids are concentrated in plant parts like the stem that herbivores are most likely to eat, and they may also provide protection against parasites. (Bastida, Julien 1, 2006) [25].

1.8 Antipyretic activity

Medicinal plants have been used by human culture from the beginning of time to treat a variety of illnesses. The World Health Organization estimates that 80% of people living in underdeveloped nations struggle to pay for synthetic medications and instead depend on traditional remedies, mostly derived from plants, to meet their basic medical requirements. Plants have long been used to treat a variety of illnesses, such as respiratory, psychological, and gastrointestinal issues. However, due to the wide range of biological and medicinal activities of herbal medicines, as well as their increased safety and lower cost, people in western countries are now turning back to these remedies. Numerous plants have been historically used to cure fever, and scientific studies have proved their antipyretic properties. The significance of medicinal plants in treating fever is well demonstrated by the current review. Additionally, this study can aid scientists and researchers in the discovery of novel antipyretic drugs derived from conventionally used medicinal herbs [26].

1.9 Plant profile

1.9.1 Plant Name

Scientific Name: Sterculia parviflora

1.9.2 Taxonomical Classification

Kingdom: Plantae

Order: Malvales

Family: Malvaceae

Genus: Sterculia

Species: S. parviflora

Binomial name: Sterculia parviflora Roxb.

1.9.3 General Information

The deciduous tree Sterculia parviflora may reach a height of 35 meters. Plank buttresses up to three meters high and two meters wide may support a bole up to 100 centimeters in diameter. It is believed that the tree is taken down from the wild for its lumber, which is used locally. It is cultivated beside roadways as an aesthetic feature. 'Least Concern' is the plant's classification on the IUCN Red List of Threatened Species.

1.10 Plant part utilized in the study

FIGURE 4- Tree of *sterculia parviflora*

FIGURE 3- Leaves of *sterculia parviflora*

FIGURE 6- flower of *sterculia parviflora*

FIGURE 5- Fruits of *sterculia parviflora*

Chapter Two

Purpose of the Study

2. Purpose of the study

- Interest in herbal remedies grows due to immunity to commercial medications and synthetic drug risks.
- Sterculia parviflora chosen for research due to its potential medicinal properties.
- Experiment aims to evaluate thrombolytic and antipyretic effects of Sterculia parviflora.

Chapter Three

Materials & Methods

3.1 Plant material

The plant was collected from National Herbarium, Dhaka, Bangladesh.

3.2 Drying and grinding

T1he collected plant components (leaves) were separated from undesired materials, plants, or plant pieces. They were cut into very little bits and then sun-dried for a week. It is advised to use the proper grinder to get an extremely fine powder. The powder was then kept in a dry, cool, and hidden location in an airtight container.

3.3 Preparation of the crude extract

3.3.1 Cold extraction (Ethanol extraction)

Approximately 560 g of the powdered substance were placed in a clean, glass container with a flat bottom, and it was steeped in 900 mL of 90% ethanol. After sealing the container and its contents, they were kept for 15 days while being periodically shaken and stirred. The entire mixture was coarsely filtered using a strip of neat white fabric. It was then filtered using Whatman filter paper.

3.3.2 Evaporation of solvent

The filtrate was kept in an open space to evaporate the solvent thus crude extract was obtained.

➢ Fine powder of *Sterculia parviflora* leaves

➢ Dissolved in 90% Ethanol

➢ Evaporation of solvent

➢ Crude extract

3.4 Phytochemical Screening Methods

Biologically active compounds possessing a range of chemical structures and defensive properties may be found in the kingdom of plants. Lower concentrations of secondary metabolites, or phytochemicals, such as terpenoids, alkaloids, glycosides, flavonoids, tannins, and many more, are found in higher plants. Though more than half of all drugs used in medicine are derived from plants, only a small percentage of plants with therapeutic potential have been investigated. This is the reason that a large amount of recent work has focused on the phytochemical study of higher plants that are associated with information from ethnobotany.

Following their isolation, the phytochemicals are examined for various forms of biological activity [27].

3.4.1 Materials and Methods

3.4.2 Test Materials

Extract of barks of *Sterculia parviflora*

3.4.3 Reagents of chemical group tests

- Mayer's Reagent
- Fehling's Solution II
- Dragendroff's Reagent
- Distilled water
- Fehling's Solution I
- Molish Reagent Methanol
- Ferric chloride

3.4.4 Test for Glycosides

A 2-milliliter extract solution was put into a test tube. The test tube was then filled with 1 mL of Fehling solution A and B. The tube was immersed in water that was 60°C. If a brick-red PowerPoint appears, it means that glycosides are present.

3.4.5 Test for Alkaloids

A milliliter of the filtrate will be treated with a few drops of Mayer's reagent, and another milliliter will be treated in the same way with Dragendorff's reagent. This process will be repeated with 0.5g of each extract on a water bath in order to search for alkaloids. The orange-brown ppt indicates the presence of alkaloids.

3.4.6 Test for Tannins

Once 10mL of distilled water has been coarsely combined with 5g of each plant extract component and filtered, the filtrate will be treated with ferric chloride reagent. Green, blue-green, or blue-black precipitates are regarded as unmistakable indicators of the presence of tannins. It becomes blue-black when tannin is present.

3.4.7 Test for Saponins

Mix 1 ml of the suspected saponin solution with 19 ml of distilled water in a 20 ml graduated cylinder. Shake intensely for 15 minutes. The appearance of a foam layer signifies the presence of saponin.

3.4.8 Test for Gums

Mix 5 ml of the extract solution with Molish reagent and sulfuric acid. Observe the junction of the two liquids. A red-violet ring formation indicates the presence of gum.

3.4.9 Test for Flavonoid

Add a few drops of concentrated HCl to 1 ml of ethanolic extract solution. Observe for immediate red color formation. The presence of this color indicates the presence of flavonoid.

3.4.10 Test for Steroid

Dissolve 10 mg of extract in 1 ml of chloroform and 1 ml of sulfuric acid. Observe the chloroform layer for a reddish-brown coloration. The appearance of this color indicates the presence of a steroid.

3.5 Thrombolytic Activity Test

3.5.1. Thrombolytic activity

Among healthy individuals who had never used anticoagulant medication or oral contraceptives, one milliliter of venous blood was collected. After that, the blood was added to the micro centrifuge tubes that had been weighed beforehand and left to coagulate. Daginawala (2006) employed a method wherein all extractives were evaluated for their thrombolytic activity using streptokinase (SK) as the reference material. The extractive (100 mg) from each plant was incubated for the whole night in 10 milliliters of distilled water. Subsequently, the soluble supernatant was poured through a syringe filter that had an aperture of 0.22-microns. To aid in clot lysis, venous blood from healthy volunteers was separated into individual, pre-weighed, sterile microcentrifuge tubes (1 ml/tube) and heated to 37° C for 45 minutes. Once the clot had formed, the serum was completely removed without harming it, and the weight of each tube containing the clot was measured again to determine the clot weight (clot weight = weight of tube with clot – weight of tube alone). The experiment was approved ethically by the institutional ethical review committee and conducted in compliance with safe animal care norms. Every micro centrifuge tube holding the pre-weighed clot was supplemented with a

separate 100 µl water solution that contained crude extract and different partitionists. Next, 100µl of streptokinase and 100 µl of distilled water were added to the positive and negative control tubes, respectively. To determine if any clots had disintegrated, all tubes were incubated for 90 minutes at 37° C. The released fluid was collected after incubation, and tubes were weighed again to see if the weight had changed as a result of clot breakdown. The weight difference measured prior to and during clot lysis was converted to a percentage, as indicated below:

% of clot lysis is equal to (clot weight after fluid release/clot weight) × 100.

3.5.2 Streptokinase (SK)

lyophilize accessible for acquisition Five milliliters of sterile distilled water were added to a container containing fifteen thousand IU of streptokinase from Popular Pharmaceuticals Ltd. and well mixed. A stock of 100 µl (30,000 IU) of this solution was used for in vitro thrombolytic studies.

3.5.3 Analysis of Statistical Data

In each experiment, three replicates of each sample were used for statistical analysis, and the data are displayed as mean ± SD.

3.6 Antipyretic Activity

3.6.1 Principle

The antipyretic activity test aims to evaluate the ability of a substance to reduce fever induced in laboratory animals. In this experiment, fever was induced in mice by yeast, and the antipyretic potential of the test substance (in this case, Sterculia parviflora extract) was assessed by measuring its effect on body temperature compared to a control group. The test substance was administered orally to different groups of mice, and changes in body temperature were monitored over a specified time period. The principle involves comparing the reduction in body temperature in the treated groups with that of a standard drug or control group, thereby determining the antipyretic efficacy of the test substance.

3.6.2 Experimental animal

The experiment utilized 4- to 5-week-old Swiss albino mice, of either sex, obtained from the Animal Resource Branch of the International Centre for Diarrheal Diseases and Research, Bangladesh (ICDDR, B). The mice were housed in conventional polypropylene cages under

standardized conditions. They were maintained in a 12-hour light-dark cycle with a regulated ambient temperature of 24 ± 2ºC and a relative humidity of 60–70%. Throughout the experiment, the mice had access to ad libitum water and ICDDR; B prepared rodent chow. Due to the high sensitivity of these animals to changes in their surroundings, a careful acclimatization process was implemented. The mice were housed in the test site for a minimum of three to four days prior to the experiment. This acclimatization period ensured that the mice were adapted to the experimental environment, minimizing stress and potential confounding factors during the study.

3.6.3 Experimental design

A total of thirty-five experimental animals were randomly selected and divided into four groups, each consisting of three mice. Each group received a certain form of therapy. Before starting any treatment, the temperature of each mouse was precisely weighed, and the doses of the test samples and control drugs were adjusted accordingly.

3.6.4 Preparation of test materials

To provide the extract to the mice at doses of 250 and 500 mg/kg body weight, the carefully weighed extracts were measured and triturated in a unidirectional manner with a little quantity of Tween-80 (a suspending agent). After properly mixing the extract and suspending agent, 3.0 milliliters were the final volume of the suspension. A vortex was used to completely mix the mixture in order to stabilize the suspension.

Figure 5-Oral feeding of test sample to mice

3.6.5 Procedure

The ANOVA approach, which was followed by Dunnett's test, was employed for this study with a few small modifications. To establish the test, positive control, and control groups from the animals, three mice each were employed. The control group received 10 ml/kg of normal saline orally as the vehicle. The positive control group received aspirin orally at a dose of 300 mg/kg. A dose of 250 and 500 mg/kg body weight of an ethanol extract of *Sterculia parviflora* leaves was administered to the experimental group. Each animal was kept in a different cage, and the floors were changed every hour. After the previously described treatment, each mouse received an oral dose of aspirin to induce fever. The decrease in fever was seen for four hours during the monitoring period.

Chapter Four

Result and Discussion

4. RESULT

4 . 1 Phytochemical Screening

results of the phytochemical screening of the *Sterculia parviflora* leaf ethanol extract.

Tested groups	Result
Glycosides	+
Alkaloids	+
Tannins	+
Saponins	+
Gums	+
Flavonoid	+
Steroid	–

Table 1- Phytochemical test results of extract of Sterculia parviflora.

NB: When the tested group is present, it is indicated by (+) positive; when it is not, it is indicated by (−) negative. The tests determine if the extract made from ethyl acetate of *Sterculia parviflora* contains, glycosides, alkaloids, tannins, saponis, gums and flavonoid.

4.2 Thrombolytic activity test:

Sample	Blank tube weight (gm)	1st clot + tube weight (gm)	1st clot weight (gm)	2nd clot + tube weight (gm)	2nd clot weight (gm)	% of lysis
Control (Distil water)	0.801	1.607	0.806	1.414	0.613	***23.95%***
Sterculia parviflora extract	0.802	1.639	0.837	1.429	0.627	***25%***
Standard (Streptokinase)	0.825	1.667	0.842	1.295	0.47	***44.2%***

Table 2- Thrombolytic activity (in terms of % clot lysis) of Sterculia parviflora.

- Weight of lysis clot = 1st Clot Wt. – 2nd Clot Wt.
- % of Clot lysis = Wt. of lysis Clot/ 1st Clot Wt. *100

SK = Streptokinase (positive control)

EE= Ethanol extract

Blank= Water as negative control.

44.2% of the clot was dissolved when 100 µl SK, a positive control containing 30,000 IU, was added to the clots and incubated for 90 minutes at 37 °C. In contrast, distilled water was utilized as a negative control and revealed a relatively low level of clot lysis (23.95%). It was found that the average difference in the proportion of clot lysis between the positive and negative controls was statistically significant. *Sterculia parviflora* (25%), in this experiment, demonstrated the greatest thrombolytic action.

4.3 Result of antipyretic activity

Following a yeast-induced antipyretic test on an ethanolic extract of *Sterculia parviflora* leaves, the following information was gathered. Test materials used to assess the antipyretic potential of an ethanolic *Sterculia parviflora* leaf extract.

Code no.	Test Samples	Group	Identification	Dose (mg/kg) *
CTL	Normal saline	I	Control Group	0.1 ml/10 g of body wt.
STD	Aspirin	II	Standard Group	300
EESF 250	Ethanolic extract of leaves of *Sterculia parviflora*	III	Test Sample	250
EESF 500	Ethanolic extract of leaves of *Sterculia parviflora*	IV	Test Sample	500

Table 2- Test materials used in the evaluation of anti-pyretic activity of ethanolic extract of leaves of Sterculia parviflora

	Normal Temperature (°F)	Temperature after pyrexia induction (°F)	After Drug Administration (°F)			
		0 hr	1 hr	2 hr	3 hr	4 hr
Control (Saline)	98	98.5	98.2	98.4	98.3	98.2
	96.8	97	97.3	97.2	97.3	97.0
	97.5	98	98.1	98	97.8	97.9
Standard (Aspirin)	97.2	100.3	100	98.5	98	97.5
	97	101.2	100.3	98.6	98.2	97.3
	97	99.8	98.5	97.8	97.2	97
EESF 250	97	99.7	99.5	99.2	99	98.7
	98	101	100.9	100.6	100.2	99.9
	97.2	100.3	100.1	99.9	99.6	99.3
EESF 500	96.8	99.8	99.2	98.9	98.3	98
	97.6	100.1	99.8	99.3	99	98.7
	97.8	101.2	101	100.7	100	99.5

Table 3- Fever decrease data

$$\% \text{ of antipyretic effect} = \frac{\text{Temperature after pyrexia induction} - \text{Lowest reduce temperature}}{\text{Temperature after pyrexia induction} - \text{Normal Temperature}} \times 100$$

It is evident that aspirin exhibited a 100% antipyretic effect, whereas EESF at a dosage of 250 mg demonstrated a 32.2% efficacy, and at a dosage of 500 mg, it showed an 50% efficacy. The study's findings demonstrate the statistically significant antipyretic activity of the *Sterculia Parviflora's* ehtanolic extract.

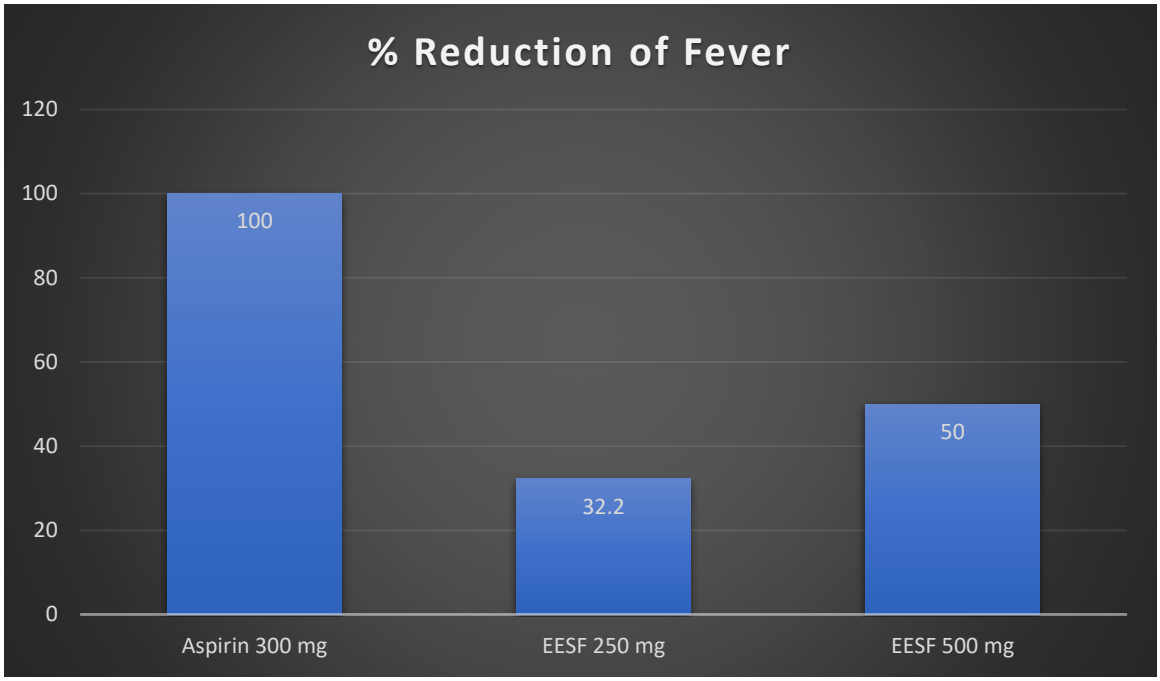

Figure 6- Antipyretic effect of ethanolic extract of leaves of Sterculia parviflora on aspirin (1ml/mice) induced fever in mice

Chapter Five

Conclusion

5. Conclusion:

In conclusion, our investigation into the medicinal properties of Sterculia parviflora leaves has yielded promising results, particularly in terms of its thrombolytic and antipyretic effects. Through comprehensive phytochemical screening, we identified a range of bioactive compounds within the ethanolic extract of Sterculia parviflora, including glycosides, alkaloids, tannins, saponins, gums, and flavonoids. These compounds are renowned for their therapeutic potential and underscore the medicinal value of Sterculia parviflora.

Our thrombolytic activity test revealed a noteworthy thrombolytic effect of the Sterculia parviflora extract, with a 25% clot lysis observed compared to the positive control streptokinase, which exhibited a 44.2% clot lysis. This suggests the considerable potential of Sterculia parviflora as a natural thrombolytic agent.

Furthermore, our antipyretic activity test demonstrated significant antipyretic properties in the ethanolic extract of Sterculia parviflora leaves. At doses of 250 mg/kg and 500 mg/kg, the extract exhibited antipyretic effects of 32.2% and 50% respectively, relative to aspirin, which displayed a 100% antipyretic effect. These findings highlight Sterculia parviflora as a promising natural remedy for fever reduction.

In summary, our study provides valuable insights into the medicinal potential of Sterculia parviflora leaves, particularly regarding its thrombolytic and antipyretic activities. Further research and clinical trials are warranted to fully elucidate its therapeutic benefits and validate its efficacy and safety for human use. If substantiated, Sterculia parviflora could emerge as a compelling natural alternative for managing thrombotic disorders and fever-related conditions.

Chapter Seven

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