INTRODUCTION
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Traditional medicine has a long history. It is the sum total of the knowledge, skills and practices based on the theories, beliefs and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health, as well as in the prevention, diagnosis, improvement or treatment of physical and mental illnesses.¹

Since the early human existence, many natural products came into practice for human welfare by sheer intuition or more appropriately by trial & error. Because of this practice, in fact, every country including the civilization of China, Egypt & India developed its own medical system. Thus the Indian medical system-Ayurveda came into existence.²

Traditional medication involves the use of herbal medicines, animal parts and minerals. Herbal medicines are the most widely used of the three.¹

Herbal medicines form an important part of most traditional systems of medicine. They have been used for thousands of years. They play an important role particularly in primary health care. The significant contribution made by herbal medicines to human health has led to increased popular, official & commercial interest. So there is not only need to clearly define the relationship between herbal medicine & general health services but also to establish the mechanisms to ensure the safety & quality of herbal medicines & traditional methods of care.³

Herbal medicine in traditional medical practice is an important resource which can be mobilized for the attainment of the common goal of health for all. These
herbal medicines have contributed significantly to man's struggle against diseases & maintenance of health.¹

Since time immemorial, human beings have learnt on plants/herbs/shrubs etc for curative treatment of diseases & to secure prevention and cure against manifestation of various ailments. The same herbs, plants & shrubs etc which were being put to use by the people of ancient days & used appreciably by the Egyptians, Greeks, Chinese, Romans as well as Indians have been continuing to be valued to combat diseases. Many of these plants & herbs are being used till today & some are even being introduced in the manufacture of indigenous medicines following extensive research.³

Even though modern science has disposed off the fanciful & emotional claims of herbal medicines, it has definitely acknowledged the herbal treatments & plant medicines which worked. We have not been able to replace digitalis or quinine with a better synthetic drug. In fact, new medical science is reaffirming much of the old herbal remedies & thus extending the horizons of medicinal plants.³

Plants have been used for health & medical purposes for several thousands of years. The number of higher plant species on earth is about 250,000. It is estimated that 35000 to 70000 species have at one time or another been used in some cultures for medicinal purposes. A majority of the world’s population in developing countries still relies on locally produced herbal medicines for their health care. Herbal medicines are often used to provide first-line & basic health service, both to people living in remote areas where it is the only available health service, and to people living in poor areas where it offers the only affordable
remedy. Even in areas where modern medicine is available, the interest on herbal medicines & their utilization have been increasing rapidly in recent years.²显著地，印度作为一个整体，以使用植物作为药物而闻名。没有夸张，农村印度，尤其是部落印度，被认为是人类常见及不常见疾病中唯一使用各种植物作为药物使用者。

在发展中国家，草药被认为是比西药更容易获取、可及、价格合理、文化上可接受和可持续的。然而，草药并不总是因为它们是自然的而安全。一些草药会引起严重的不良反应，而一些草药中含有可能导致长期副作用如致癌性及肝毒性。草药只会在适当使用的前提下能有益于人类健康²。

随着传统医学的广泛使用，安全及有效性以及质量控制成为公共卫生部门及公众的重要关注点。³

长时期以来，传统医学的许多实践，包括经验从一代传到下一代，已经证明了传统医学的安全性及有效性。然而，科学的研究是需要提供额外证据以证明其安全及有效性。³

传统医学的实践在不同国家及地区差异很大，因为它们受文化、历史、个人态度及哲学的影响。在许多情况下，它们的理论及应用都是不同的。
quite different from those of conventional medicine. In conducting research & evaluating traditional medicine, knowledge and experience obtained through the long history of established practices should be respected.¹

In spite of the tremendous advances made in the modern medicine, there are still a large number of ailments for which suitable drugs are yet to be found. Today, there is an urgent need to develop safer drugs for the treatment of inflammatory disorders, diabetes, liver diseases, gastrointestinal disorders (Ulceration) & last but not the least the problem of population explosion—suitable & safe antifertility agents which will have lesser undesirable side effects.³

The incredible growth of the world population stands as one of the significant events of the modern era. The current world population is about 6 billion & most of the growth is in underdeveloped countries. The birth rates & the death rates of the developed countries like UK, Germany, France & Sweden etc are almost equal to each other or there is a little difference so the population is stabilized but in developing countries like India, Pakistan, Bangladesh & Libya etc. the rate of deaths to births is 1:3 & in some cases more. This obviously shows that the population of these developing countries is constantly increasing. After China, India is the second most populous country. The population growth rate for India is 2.1% per annum, which is considered explosive growth in demographic terms & it is nullifying all the socio-economic developments & adversely affects the standard of living.⁴,⁵

When we take a look at a country like India, we can easily understand that indiscriminate and uncontrolled growth of human population in our country is one of the biggest problems we are facing today. With a meteoric increase in human
population, we have started facing problems related to scarcity of water, shelter, food etc. There is indiscriminate deforestation, conversion of forest areas into agricultural land for increased generation of food grains- thus leading to serious ecological disturbances. The whole world feels that immediate steps are necessary to curb such uncontrolled growth of human populations.³

The Government of India has formulated national policies to reduce the growth rate but alas! We have achieved very little. Along with conventional antifertility devices available in the market, use of steroidal hormones is also being prescribed by the doctors to control birth. Owing to the undesirable side effects of the available hormonal preparations, it is necessary that we have some relatively non toxic drugs, which will have low side effects on long term use. Over the ages, plant preparations have been used effectively by practitioners of traditional medicine to control birth. On survey of literature, numerous reports are available, where plant preparations have been found to be effective as antifertility agents with an advantage of low side effects. Thus herbal preparations can provide us with an alternative in controlling the global problem of population expansion³.

In India the systematic investigation of indigenous medicines on modern scientific lines was started in the 1920s. A number of important medicinal plants were investigated. Pharmacological action of their active principles was observed during animal experimentation. Subsequently clinical trials were done on the preparations made from these drugs. A large number of drugs examined have shown to possess significant activity, but they are not superior to those listed in the pharmacopoeias. They can, however, be used as substitutes for official drugs.⁶
The present study was done to investigate the antifertility effect of three plants used by tribal of Orissa. The three plants selected were

1- *Zizyphus jujuba* Mill & Lamk (leaf)
2- *Stephania hemandifolia* Walp (leaf)
3- *Cissampelos pareira* Linn (leaf)

The local tribal females use the leaf paste of *Zizyphus jujuba* as an antifertility agent to prevent pregnancy. There were reports of antifertility effect of its bark but the antifertility effect of its leaves in female is not reported.

Tribes of Orissa (female) take approximately 5.5gm of leaf paste of *Stephania hemandifolia* after taking bath on the 4th day of menstruation. There were reports of antifertility effects of its rhizomes. There are a few reports of its antifertility effect of its leaves in both male and female. However more study is required to validate the folklore claims.

Similarly some tribal people have been using the leaf paste of *Cissampelos pareira* for its antifertility effect. However there is no scientific report to validate such activity. In some parts of Orissa, this plant is having the same local name (i.e. akanabindhi) as that of *Stephania hemandifolia*. So there is a bit of confusion whether *Stephania hemandifolia* or *Cissampelos pareira* is working and to avoid such confusion both these plants were selected for study of antifertility effect.
This study was done with following objectives in female albino rats.

1. To evaluate the antifertility effect of leaves of selected plants
2. To characterize the chemical constituents.
3. To explore the possible mechanisms for the said activities
4. To evaluate their safety
5. To put the active extracts into a suitable dosage form

The test extracts were compared with diethyl stilbestrol and ethinyl estradiol to evaluate their antifertility effect. Laboratory tests on haematology & biochemical parameters were performed and histopathological studies on major organs like Liver, Kidney, ovary, uterus and vagina were done to evaluate safety.