

# EVALUATION OF ANTI DIABETIC POTENTIAL OF CRUDE ETHANOLIC EXTRACT OF CINNAMONUM VERUM

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**ABSTRACT--***To evaluate the anti diabetic potential of crude ethanolic extract of CINNAMONUM verum. This sample was purchased from the organic super market and then it is made as a powder. Then the ethanolic extract was prepared. And then the anti diabetic potential of this compound is estimated. It is evident that CINNAMONUM verum posses the anti diabetic potential that is the crude ethanolic extract of this compound posses. As of now it is used as a spice, in future it can be used on the daily basis to prevent the diabetes As we can prevent diabetes nowadays, by using this compound we can create awareness among people.*

**KEYWORDS--** *evaluation of anti diabetic potential of crude ethanolic extract of cinnamonum verum.*

## I. INTRODUCTION

CINNAMONUM is a common spice which is used in many parts of the world. It has a glycemic potential which asses the diabetes mellitus(1). Nowadays many developed countries started using this as the food supplement. These supplements contains vitamins,minerals in the form of tablet or powder. CINNAMONUM is a very good food supplement(2). It has anti bacterial activity. This compound contains essential oils and other chemical derivatives like Cinnamaldehyde, cinnamic acid etc.. The bark of CINNAMONUM verum is used as a spice, world wide. It also has a very good fragrance which is mainly used by the industries(3). Diabetes mellitus has now become a trendy disease in the world. It is characterised by the rise or elevation in the blood glucose level. It is one of the frequent disease that affects the population mainly in the developing countries. CINNAMONUM belongs to the family 'Lauraceae'(4). In a study the crude extract of CINNAMONUM is used as a mouth rinse against the action of the micro organisms(5). Also in some study they proved this compound has the ability to protect our mouth that is the oral cavity(6). It also helps in the glucose metabolism. Diabetes is a disease which requires to be cured and controlled. With the help of the extract of this compound, it can be prevented.

Traditional Indian spices are involved in treating the diabetes mellitus. These spices have the potential to treat the pre diabetes. The term pre diabetes is for the condition in which the blood glucose level is >110 and <126 mg/dl. Cinnamomum also shows increase in the metabolism of lipids(7). Another study this compound is used to treat the allergic reactions and also to treat the acetyl choline disorders, where acetyl choline is a neuro transmitter.

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Now in this study, the bark of CINNAMONUM is used to treat the diabetes mellitus in humans. The purpose of this study is to analyse the anti diabetic potential. The extract taken here is the ethanolic extract.

## II. MATERIALS AND METHOD

### *CINNAMONUM VERUM:*

This compound was purchased from the organic supermarket in Chennai.

### *ETHANOLIC EXTRACT OF CINNAMONUM VERUM*

CINNAMONUM was weighed, crushed into powder using Mortar and pestle and 50% of ethanolic extract was prepared by the solvent extraction method.

### *ANTIDIABETIC POTENTIAL ESTIMATION*

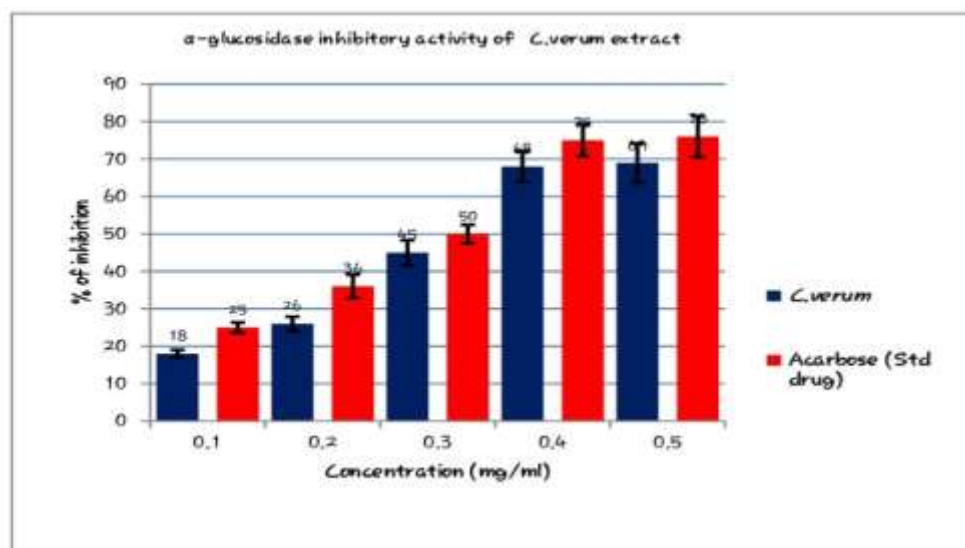
The anti diabetic potential of CINNAMONUM verum is estimated by

1. In vitro alpha amylase inhibitory activity of CINNAMONUM verum.  $\text{Inhibitory activity(\%)} = [1 - \text{As}/\text{Ac}] * 100$

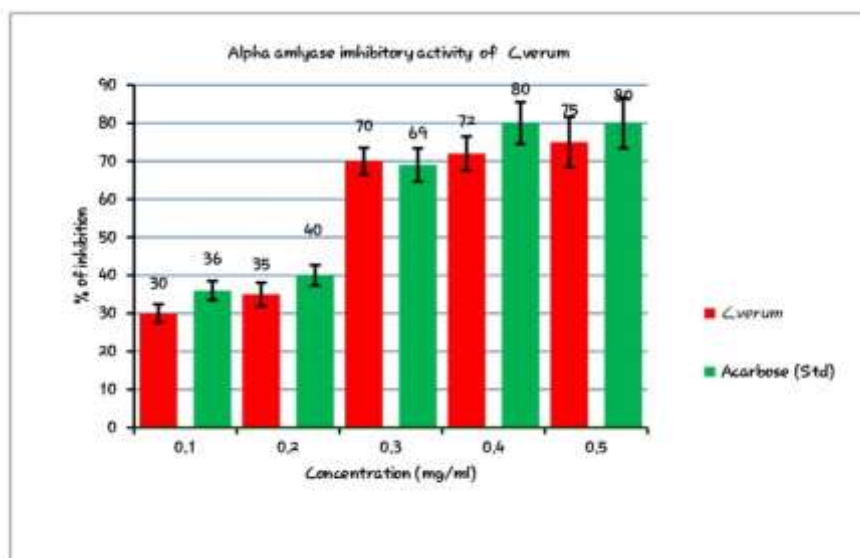
2. Alpha glucosidase activity of CINNAMONUM verum  $\text{Inhibitory activity(\%)} = [1 - \text{As}/\text{Ac}] * 100$

The standard drug taken for this study is Acarbose. This study is performed in-vitro. Further in-vivo studies can also be done.

## III. RESULTS AND DISCUSSION



**Figure 1:** the the alpha glucosidase inhibitory activity of Cinnamon verum.



**Figure 2:** the alpha amylase inhibitory activity of CINNAMONUM verum.

From this study it is evident that ethanolic extract of CINNAMONUM verum possesses antidiabetic potential similar to the standard drug 'Acarbose'. CINNAMONUM verum is a spice which is used in every household from ancient times, especially in India (8). Indian population are fond of using spicy food, and in the future this spice can be used along with candies, bubble gums, mouth wash etc..

In American cooking, CINNAMONUM is often paired with apples, and other fruits and cereal dishes. Thus the modern synthetic drugs can be effectively replaced with natural herbal constituents. Also there is a reduction in blood glucose level, when this compound is administered regularly (9). In ancient days, people used the bark of this compound for making medicine. It is mainly used for treating digestive problems like indigestion, diarrhoea

By comparing with Mukul Tailing et al., CINNAMONUM zeylancium has 60% Hypoglycaemic activity. So by using this compound we can be able to prevent diabetes (9,10). It has been proved that CINNAMONUM has very good antioxidant properties. It also has scavenging activities. This proposed that CINNAMONUM would be a potential source for treating many diseases including diabetes. CINNAMONUM verum has beneficial effects in treating diabetes, however randomised clinical trials are required for the safety and its efficacy (11).

Although by comparing with the standard drug, it is less effective but the side effects of CINNAMONUM are less compared to the Acarbose.

#### IV. CONCLUSION

'PREVENTION IS BETTER THAN CURE' like wise if this compound is utilised properly on a daily basis, diabetes may be prevented.

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