Examination of nutritional and medicinal potential of Apple juice

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2016

EXAMINATION OF NUTRITIONAL AND MEDICINAL POTENTIAL OF APPLE JUICE

Submitted to University of Management and Technology Lahore

In partial fulfillment of the requirements

For the award of degree of

MS.

IN

CHEMISTRY

BY

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ID

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SESSION: 2014-2016

DEPARTMENT OF CHEMISTRY
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LAHORE, PAKISTAN


بسم الله الرحمن الرحيم

DECLARATION

I**MARIA KAYNAT**D/O **MUIR ALI**ID:**14003140049**Session **2014-2016** hereby declare that the matter printed in the thesis titled "**EXAMINATION OF NUTRITIONAL AND MEDICINAL POTENTIAL OF APPLE JUICE**"is my own work and has not been printed, published and submitted as research work, thesis or publication in any form in any university, research institution etc. in Pakistan or abroad.

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(Maria Kaynat)

RESEARCH COMPLETION CERTIFICATE

Certified that the research work contained in this thesis titled, "**EXAMINATION OF NUTRITIONAL AND MEDICINAL POTENTIAL OF APPLE JUICE**" has been carried out and completed by **MARIA KYNAT**, **ID: 14003140049.** The quantum and the quality of the work contained in this thesis is adequate for the award of Degree of MS/M.Phil.

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DEDICATION

I dedicate this humble effort and study to my grandparents, beloved father, mother and siblings,my husband, my beloved sonand respected teachers, who has always encouraged and supported me and whose prayers have always paved way of success for me.

ACKNOWLEDGEMENTS

All praises and humble thanks to Almighty ALLAH, who bestowed me with opportunities, mercy and strength, which enabled me to complete this work

All the respect and gratitude for **Holy Prophet Muhammad (Peace be Upon Him)** who is forever a blessing, a torch of guidance and light of knowledge for mankind and teaches us to recognize our self.

I would like to express my deep and sincere gratitude to my learned and renowned **Research supervisorDr. Ayesha Mohyuddin, Assistant Professor.**

I am also thankful to most cooperative **Chairperson of Department Dr. SammiaShahid**that gave me educational motivations.

I am also thankful to impressive and most talented personality **Dr. AzharIqbal SSC Dean UMT Lahore.**

My appreciation and thanks to the laboratory staff **MuhammadRizwan**Department of Chemistry, UMT Lahore for their support and guidance.

I am grateful to my beloved father, dear mother for their continuous support, love and patience throughout the long journey. I would like to extend my gratitude to my sisters and brothers due to their continuous support and prayers and for being a source of strength to me.

With gratification I thank my dearest friends **NosheenShaukat**and**Samreen Hamid** for their kind support and providing me nice atmosphere throughout my research work.

MARIA KYANAT

CONTENTS

LIST OF TABLES

Preface: **page no:**

LIST OF FIGURES

Preface: **page no:**

ABSTRACT

Malus domestica is a family of flowering plants having 2830 species and 95 genera. This family is mostly found in a wide variety of habitats, in the north temperate zone. Commonly it is found all over the world. The Rose family produces many edible fruits. It is valuable medicinal plant, having acid it promotes digestion process of stomach. It provides protection from constipation if has been taken at night. Rotten apple used as home remedy for sore eyes. Leaves of plant having huge amount of phenolic acids. Fresh apple contains cancer fighting quality. It works as antidiarrheal according to body needs. For removal of toxic metal from body apple helps. By consumption of this fruit daily, reduce the cardiovascular diseases. As a cleaner apple has been reported to reduce radioactive radiations.

Samples of apple juices were collected from the market. Three samples were of famous brand Nestle, Shezan and fruiten while the one was fresh juice purchased from the market. From these samples phytochemical analysis and antioxidant activity was performed. Phytochemical tests were performed for the screening of secondary metabolites in all the samples, alkaloids were absent but flavonoids and tannins were present. From the total phenolic content assay, it was evaluated thatFruiten juice has high phenolic contents in the range from 1.24nm to 1.38nm 765nm wavelengths. After fruiten juice, Shezan juice gave the good result. Fresh juice also showed some results and better then nestle. FRAP assay showed that Fresh juice samples have high value 0.5834nm at 1 minute but after 2 and 3 minutes its value was decreased from 0.5834nm to 0.4012nm. These FRAP assay indicated that fresh apple juice is rich in phenolic compound like flavonoids.

INTRODUCTION

Fruits are recognized as a good source of vitamins and minerals. Similarly, apple is vital part of our body needs. It provides several health benefits to our body. To know medicinal and beneficial aspects of fruits scientist, chemist, botanist and pharmacists all over the world are working.