## CONTENTS

<table>
<thead>
<tr>
<th>ACKNOWLEDGEMENT</th>
<th>i</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABRREVIATION</td>
<td>iii</td>
</tr>
</tbody>
</table>

### 1. INTRODUCTION

- Classification of hypertension by aetiology ........................................ 1
- Essential or primary hypertension ......................................................... 1
- Renin-angiotensin system ........................................................................... 4
- Classification of blood pressure for adults age 18 years or older ........... 5
- Age and hypertension .................................................................................. 5
- Gender and hypertension ............................................................................. 6
- Ethnicity and hypertension ......................................................................... 6
- Association between hypertension and kidney stone disease ..................... 7
- Primary prevention of hypertension ........................................................... 9
- Risk factors and stone disease .................................................................. 12
- Lipid per-oxidation and its biochemical consequences .............................. 16
- Lipid per-oxidation and hypertension ....................................................... 17
- Antioxidant enzymes and antioxidants ....................................................... 18
- Review of literature .................................................................................. 23
- Scope of the present investigation ............................................................. 26
### 2. MATERIALS AND METHODS

2.1 Selection of patients  
2.2 Experimental details  
2.3 Preparation of hemolysate  
2.4 Parameters assayed in hemolysate, plasma, serum and urine  
2.5 Sources of reagents, solvents and fine chemicals  
2.6 Methods  
2.7 Statistical analysis  

### 3. RESULTS

3.1 Blood biochemical changes in hypertensive patients  
3.2 Effect of blood pressures on blood and urinary parameters  
3.3 Effect of vitamin E on blood and urinary parameters  

### 4. DISCUSSION

4.1 Blood biochemical changes with vitamin-E supplementation  
4.2 Serum stone risk factors  
4.3 Lipid profile in hypertensive patients  
4.4 Renal and liver profile in hypertensive patients  
4.5 Lipid per-oxidation  
4.6 Antioxidant enzymes and antioxidants  
4.7 Stone risk factors in essential hypertension  
4.8 Urinary enzymes  
4.9 Possible mechanism of restoration of risk factors by vitamin E supplementation