Alcohol content of herbal preparations sold in Awka Metropolis, Nigeria

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ABSTRACT

The study investigated the alcohol contents of herbal preparations sold in Awka metropolis, Nigeria. Nine (9) herbal samples were analyzed. Distillation method was used for the analysis. The result of the analysis showed that alcohol contents of the herbal sample ranged from 0.1±0.00% to 22±14%. The result showed that except for one of the samples, the alcohol content of the samples were within the range stipulated by European Medical Agency, which stipulated a range less than 5%. The results showed that herbal samples sold in Awka metropolis were largely safe for human consumption.

Key words: herbal preparations, alcohol, distillation, European Medical Agency, Nigeria

1.0 INTRODUCTION

Herbs (plant derived substances) have become a great interest owing to their versatile applications. Medicinal plants are the richest bio-resource of drugs of traditional system of medicine, modern medicines, food supplements, folk medicines, pharmaceutical intermediates and chemical entities for synthetic drug[1].

Herbal medicines are an integral part of the healthcare and healing practices in many ethnic and cultural communities today. The herbal medicines include dietary supplements that contain herbs either singly or in mixtures. Over the past decade there has been an increased global interest in traditional system of medicine and herbal medicinal product. In addition a growing number of people are turning to herbal medicines when pharmaceutical medicines do not meet their needs. Herbs are considered food for the body; it is effective in restoring and maintaining health[2].

Herbal liquid or tinctures are liquid containing varying amount of alcohol, the alcohol is used when plants have active chemicals that are not very soluble in water. The percentage of alcohol usually determines the shell life and the amount is unique to the herbs[3]. Some herbal preparations contain large percentage of alcohol others contain a little percentage of alcohol depending on the purpose of production. But most herbal preparations used for medicinal purpose contain little percentage of alcohol which can be easily metabolized by the liver[3]. Herbal liquid can provide energy and good blood circulation which enables the body to eliminate toxic substances that cause disease, it also aids digestion, assimilation and proper elimination. They have a remarkable history of increasing the healing power of the human body and maintaining good health when properly used. Alcohol is an excellent preservative, some of the ingredients of herbs that cannot dissolve in water, dissolve in alcohol solvent to extract the active ingredients of plant[4]. Alcohol is a better and more consistent extraction liquid[4]. Alcohol also provides a particularly effective way of maximizing the bioavailability of the bioactive extracts from the plant. The mode of action seems to be that alcohol acts to keep the active components in solution after ingesting thus facilitating their absorption into the bloodstream[5].
AIM

To determine the Alcoholic Content of different herbal liquids sold in Awka, Nigeria.

EXPERIMENTAL

SAMPLE COLLECTION

Nine (9) herbal samples used for this study were purchased from different herbal centres in Awka, Anambra State, Nigeria.

METHOD

DETERMINATION OF PERCENTAGE ALCOHOL CONTENT

The distillation method of\(^6\) was used for the percentage alcohol determination of the samples.

RESULT

Table 1 shows the percentage alcohol concentration of the herbal samples

<table>
<thead>
<tr>
<th>S/N</th>
<th>Sample</th>
<th>Percentage(%) alcohol</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>S(_1)</td>
<td>0.3±.03</td>
</tr>
<tr>
<td>2</td>
<td>S(_2)</td>
<td>0.5±.14</td>
</tr>
<tr>
<td>3</td>
<td>S(_3)</td>
<td>22±.14</td>
</tr>
<tr>
<td>4</td>
<td>S(_4)</td>
<td>3.9±.42</td>
</tr>
<tr>
<td>5</td>
<td>S(_5)</td>
<td>2.6±.14</td>
</tr>
<tr>
<td>6</td>
<td>S(_6)</td>
<td>0.9±.28</td>
</tr>
<tr>
<td>7</td>
<td>S(_7)</td>
<td>0.3±.07</td>
</tr>
<tr>
<td>8</td>
<td>S(_8)</td>
<td>1.9±.28</td>
</tr>
<tr>
<td>9</td>
<td>S(_9)</td>
<td>0.1±0.00</td>
</tr>
</tbody>
</table>

DISCUSSION AND CONCLUSION

DISCUSSION

The results showed that the percentage alcohol content of the different herbal samples ranged from 0.1% to 22%. The result of this study agrees to some extent with the result of \(^7\), who reported herbal alcohol content range of 1.20% to 20.8%. Herbal medicinal products in liquid form should contain less than 5% alcohol\(^8\).

Except for one sample (S\(_3\)), the alcohol contents of the herbal samples fell within the range stipulated by E.M.A (less than 5%). Alcohol at high concentration leads to destruction of the liver. Also high intake of alcohol causes alcohol intoxication which results in symptoms like drowsiness and other behavioral changes which include less self restraint\(^3\). Alcohols injure cells by precipitating and dehydrating protoplasm and also act as an irritant to denuded surface and mucosal cells\(^3\). The central nervous system can also be affected by alcohol, also a primary depressant effect on cells occur during chronic alcohol intake\(^3\).
CONCLUSION

The low alcoholic contents of a large number of the herbal samples analyzed suggest that these products are safe for consumption. So based on the result of this study about 91% of the herbal medicines sold in Nigeria contain acceptable levels of alcohol. Nevertheless regulatory authorities should monitor the activities of herbal medicine producer. Consumers of locally made herbal liquid are advised to desist from taking those with high alcohol content as this may lead to alcohol induced liver problem.

REFERENCES

[8] European Medical Agency (E.M.A).“Herbal Recommendations; Traditional Herbal Medicinal Products.” 1:2-7(2009)