COMPARISON OF FISHERMAN WITH OTHER COMMUNITIES REGARDING ASTHMA, HYPERTENSION AND DIABETES PREVALENCE - A SURVEY BASED STUDY

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ABSTRACT

At present times changes in factors like diet, increased stress, due to lack of physical exercises etc., chances of disorders like diabetes, hypertension and asthma are being increased particularly. These disorders when compared within communities are also found to be different in terms of progression. This study mainly depends on the comparison of these disorders among fisherman community and other communities. In this study total 351 members of 100 families of all ages were considered. The present study focused on the role of community pharmacist who should bring awareness and educating the people for the promotion of their health in different communities based on their lifestyle modifications. The results obtained are compared and the progression of disorders among different communities has been evaluated and information about diabetes, hypertension and asthma is given in the form of patient information leaflets.

Key-words: Diabetes, Hypertension, Asthma.

INTRODUCTION

Community Pharmacy

A community pharmacy is a healthcare facility that emphasizes providing pharmaceutical services to a specific community. It dispenses medicine and typically involves a Registered Pharmacist [¹]. Community pharmacists are the health professionals most accessible to the public; they supply medicines in accordance with a prescription or, when legally permitted sell them without a prescription [²].

In addition to ensure an accurate supply of appropriate products, their professional activities also cover counseling of patients at the time of dispensing of prescription and non-prescription drugs, drug information to health professionals, patients and the general public and participation in health-promotion programmer [³]. They maintain links with other health professionals in primary health care [⁴].

Asthma (bronchospasm)

Asthma (from the Greek ἁσθµα, asthma, "panting") is a common chronic inflammatory disease of the airways characterized by variable and recurring symptoms, reversible air flow obstruction and bronchospasm.
Common symptoms are wheezing, coughing, chest tightness, and shortness of breath. The causes of asthma are found to be Tobacco smoking, Air pollution, Allergens like pollen, grasses, some fishes like salmon, tuna, shell fish and alibut (most common kinds of finned fishes to which people are allergic) and β-blockers. The mostly preferred medication for asthma is

1. Salbutamol - metered dose inhalers
2. Long acting β-adrenoceptor agonists such as salmeterol and formoterol
3. Leucotriene receptor antagonists such as montelukast and zafirlukast
4. Mast cell stabilizers like cromolyn sodium

Diabetes Mellitus

Diabetes mellitus (DM), commonly referred to as diabetes, is a group of metabolic diseases in which there are high blood sugars levels over a prolonged period. Symptoms of high blood sugar are frequent urination, increased thirst and hunger. If left untreated, diabetes can cause many complications. Acute complications include diabetic ketoacidosis and nonketotic-hyperosmolar coma. Serious long-term complications include cardiovascular disease, stroke, kidney failure, foot ulcers and damage to the eyes. Diabetes is due to either the pancreas not producing enough insulin or the cells of the body not responding properly to the insulin produced. There are three main types of diabetes mellitus:

1. Type 1 DM results from the body's failure to produce enough insulin. This form was previously referred to as "Insulin-Dependent Diabetes Mellitus" (IDDM) or "Juvenile Diabetes". The cause is unknown.
2. Type 2 DM begins with insulin resistance, a condition in which cells fail to respond to insulin properly. This form was previously referred to as "non insulin-dependent diabetes mellitus" (NIDDM) or "adult-onset diabetes". Disease progresses due to insufficiency of insulin supply. The primary cause is excessive body weight and lack of exercise.
3. Gestational diabetes, is the third main form and occurs when pregnant women without a previous history of diabetes develop a high blood glucose level.

Hypertension

Hypertension (HTN) or high blood pressure, sometimes called arterial hypertension, is a chronic medical condition in which the blood pressure in the arteries is elevated. Blood pressure is summarized by two measurements systolic and diastolic, which depend on whether the heart muscle is contracting (systole) or relaxing between beats (diastole). Normal blood pressure at rest is within the range of 100–140 mmHg systolic (top reading) and 60–90 mmHg diastolic (bottom reading). High blood pressure is said to be present if it is often at or above 140/90 mmHg. Hypertension is caused due to strain on the heart, leading to
hypertensive heart disease and coronary artery disease. Hypertension is also a major risk factor for stroke, aneurysms of the arteries (e.g. aortic aneurysm), peripheral arterial disease and chronic kidney disease. It is even seen during pregnancies\[13\].

Medication used for hypertension is

1. low dose Thiazide-based diuretic as first line treatment
2. Calcium channel blockers
3. Angiotensin converting enzyme inhibitors
4. Thiazide diuretics
5. alpha and beta blockers\[14\]

Aim
The main aim of our work is

- To interact with people residing in the coastal areas of Visakhapatnam on the matters relating to their health issues and to educate them about the prevention of their disorders.
- To find out the reasons for more prevalence of asthma, diabetes mellitus and hypertension.
- To educate the people for the promotion of health in a community.

Objectives
The objectives of the work are as follows:

- To interact with members of different places from North-coastal Visakhapatnam.
- To identify the ill-health people.
- To identify the prevalence of asthma.
- To identify the prevalence of diabetes mellitus.
- To identify the prevalence of hypertension.
- To get the details regarding food habits, life style of 100 families containing 351 people.
- To counsel the patients regarding the importance of medication adherence and also about the most precipitating disorders like asthma, diabetes mellitus and hypertension.
- To give the complete information to the patients in the form of patient information leaflet (PIL).

MATERIALS
- It is a direct interaction study which was conducted in the coastal region of North-coastal Visakhapatnam, Andhra, India.
- In this study, total of 351 members of 100 families were considered which consists of all age groups.

METHODS
This study was mainly conducted in the coastal areas of Visakhapatnam and was mainly concentrated on FISHERMAN COMMUNITY due to their work and life style when compared with other people living around.

- Interacted with people residing in coastal areas and gathered information about their diseased states, life style and particulars of their medication if any.
- The prevalence of these diseases are shown graphically.
Their medication adherence was checked.

They were counseled for the maintenance of their therapy for good health.

RESULTS
The results were considered in two phases like

PHASE-1: From the obtained data of 100 families containing 351 people residing near coastal region are considered for the prevalence of different disorders like asthma, diabetes mellitus and hypertension.

The prevalence of various disorders is shown graphically as follows:

**Figure 1: Disease Vs No. of persons**

D.M: Diabetes mellitus; HTN: Hypertension

From the above graph it is concluded that

1. The no. of persons suffering from asthma were found to be 28(7.97%)
2. The no. of persons suffering from diabetes were found to be 11(3.14%)
3. The no. of persons suffering from hypertension were found to be 16(4.6%)  

PHASE-2: From the above obtained data, the most prevalent disorder in the people was identified to be ASTHMA i.e., 7% (28 out of 351).

The % prevalence of asthma can be shown graphically as follows:

**Figure 2: Disease Vs Percentage prevalence**

From the above obtained results the prevalence of asthma was found to be high in people residing in the coastal areas of Visakhapatnam. The other diseases like hypertension and diabetes were found to be normal when compared with other community people.

- These people were found to suffer from diabetes due to more protein intake which is available in fish and other sea foods.
- They were suffering from hypertension due to the stress they feel as they spend more time on sea and more quantities of salted fish intake.
- They were mostly found to be suffering from asthma and the causative may be due to the intake of allergy causing fishes and sea breeze.
DISCUSSION

- From **phase-1** we have identified different disorders like asthma, diabetes, and hypertension. The % prevalence of asthma was found to be 7%, diabetes 3% and hypertension 4%.
- From the above results the prevalence of asthma was found to be higher in fisherman community than compared to other communities. The other disorders like diabetes and hypertension were found to be similar compared with other communities. These diseases were found mainly due to their food habits and stress.

<table>
<thead>
<tr>
<th>DISORDER</th>
<th>% PREVALENCE (data obtained)</th>
<th>% PREVALENCE (as per W.H.O)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTHMA</td>
<td>7.97</td>
<td>2.97-3</td>
</tr>
<tr>
<td>HYPERTENSION</td>
<td>4.6</td>
<td>3.7</td>
</tr>
<tr>
<td>DIABETES MELLITUS</td>
<td>3.14</td>
<td>2.3</td>
</tr>
</tbody>
</table>

Table 1: Percentage prevalence of disorder

From **phase-2**, as seen in results asthma was found to be more prevalent due to the food they take. The other factors that are responsible for asthma in those people were observed to be as follows:

- Fishes causing allergy like *shell fish, tuna, salmon, halibut etc.*,.
- Some microbial infections, tobacco smoking, air pollution

Due to these factors people from fisher man community are found to suffer from asthma more prevalently compared to the other communities.

CONCLUSIONS

From the obtained data, 351 members of 100 families residing near coastal region of Visakhapatnam are considered for the prevalence of *asthma, diabetes mellitus*, and *hypertension*.

- From the obtained results, the prevalence of diabetes and hypertension were found to be similar when compared with other communities.
- It was concluded that those people were found to have more asthma prevalence than WHO statistics factors like intake of fish that cause allergy, tobacco smoking, some microbial infections and sea breeze were may be the reasons for more prevalence of asthma.
- Most of the people are illiterate so they should get educated regarding medication adherence and life style changes to prevent asthma, diabetes and hypertension etc., and their risk factors associated with impaired medication adherence.
- So keeping in mind about their life style we educated them about the medication adherence and also suggested to undergo regular checkups for diabetes, hypertension and asthma.
• We also educated them through PATIENT INFORMATION LEAFLETS.

• It was also concluded that government of A.P should take special care regarding the prevalence of diabetes mellitus, hypertension and asthma and should provide affective treatment options with efficient medical staff and medications.

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