

# ORIGINAL ARTICLE

## Clinical profile of patients with hypoglycaemia

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### ABSTRACT:

**Background:** Hypoglycemia, often referred to as low blood sugar, occurs when the level of glucose in the blood drops below normal. The present study was conducted to assess the clinical profile of hypoglycaemic patients. **Materials & Methods:** 80 patients with hypoglycemia of both genders were enrolled. Parameters such as the etiology of hypoglycaemia were recorded. Assessment of blood glucose concentration by Accu-Check Gluco-stix was performed. **Results:** Out of 80 patients, males were 48 and females were 32. The common clinical features were anorexia in 62, fever in 75, LOC in 11, syncope in 49, fall in 34, AMS in 17, FND in 31, and others in 18 patients. The difference was significant (P< 0.05). The common causes of hypoglycemia was alcohol in 15, skipped meal in 10, OHA in 20, OHA +insulin in 15, insulin in 11 and others in 9 cases. The difference was non-significant (P> 0.05). **Conclusion:** Common causes of hypoglycemia was skipped meal, alcohol, OHA, OHA +insulin and insulin. The most common clinical features were AMS, FND, anorexia, fever, LOC and syncope.

**Key words:** Diabetes, Glucose, Hypoglycemia

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### INTRODUCTION

Hypoglycemia, often referred to as low blood sugar, occurs when the level of glucose in blood drops below normal. Glucose is the primary source of energy for body's cells, especially for the brain. When blood sugar levels become too low, it can lead to a variety of symptoms and, if left untreated, can become a medical emergency.<sup>1</sup>

One significant side effect of glucose-lowering medication in individuals with diabetes mellitus is hypoglycemia. Intensive glycemic control attempts always result in an increased risk of hypoglycemia.<sup>2</sup> Patients with severe hypoglycemia have been linked to a six-fold increase in diabetes-related fatalities compared to those without the condition. Frequently occurring hypoglycaemic episodes may damage the counter-regulatory mechanism and result in hypoglycemia unawareness.<sup>3</sup> Acute cerebrovascular disease, myocardial infarction, neurocognitive dysfunction, retinal cell death, and loss of vision are among the short- and long-term complications of diabetes-related hypoglycemia. Other health-related quality-of-life issues include difficulties falling asleep, driving, working, engaging in recreational activities involving exercise, and traveling.<sup>4</sup>

Examining the clinical spectrum and burden of hypoglycemia is crucial in order to put in place

suitable management mechanisms against this often disregarded but potentially fatal condition.<sup>5</sup> The main strategies to maintain good glycemic control, minimize the risk of hypoglycemia, and thereby prevent long-term complications are early recognition of hypoglycemia risk factors, self-monitoring of blood glucose, selection of appropriate treatment regimens with minimal or no risk of hypoglycemia, and appropriate educational programs for healthcare professionals and patients with diabetes.<sup>6,7</sup> The present study was conducted to assess clinical profile of hypoglycemic patients.

### MATERIALS & METHODS

The present study comprised of 80 patients with hypoglycemia of both genders. All patients gave their written consent to participate in the study.

Data such as name, age, gender etc. was recorded. Hypoglycaemia was defined as a capillary blood glucose of 70mg/dL or less. Parameters such as the etiology of hypoglycaemia were recorded. Assessment of blood glucose concentration by Accu-Check Gluco-stix was performed. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

### RESULTS

**Table I Distribution of patients**

Total- 80		
Gender	Male	Female
Number	48	32

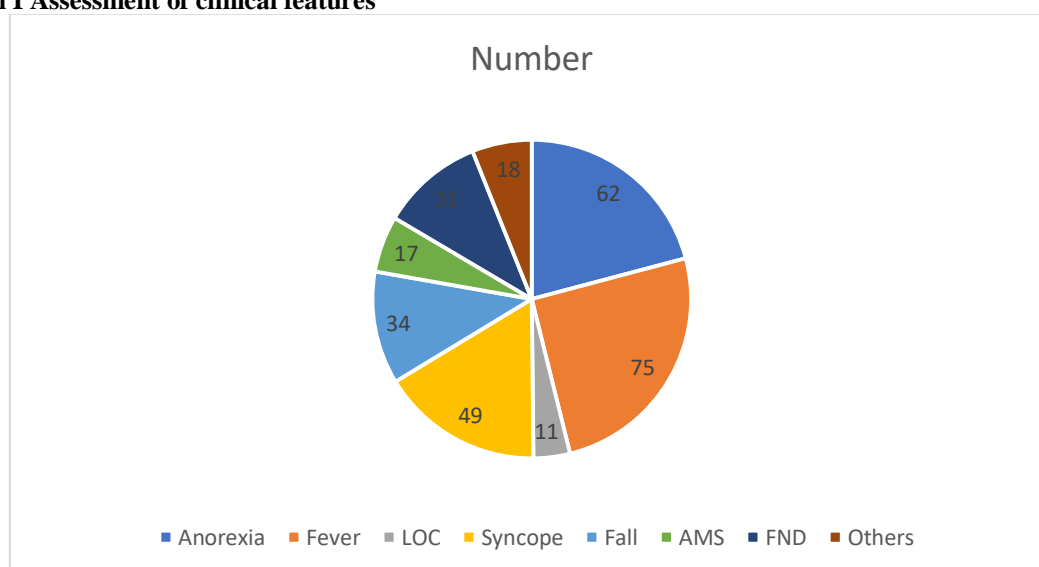
Table I shows that out of 80 patients, males were 48 and females were 32.

**Table II Assessment of clinical features**

Clinical features	Number	P value
Anorexia	62	
Fever	75	
LOC	11	
Syncope	49	
Fall	34	
AMS	17	
FND	31	
Others	18	

Table II, graph I shows that common clinical features were anorexia in 62, fever in 75, LOC in 11, syncope in 49, fall in 34, AMS in 17, FND in 31, and others in 18 patients. The difference was significant ( $P < 0.05$ ).

**Graph I Assessment of clinical features**



**Table III Etiology of hypoglycemia**

Etiology	Number	P value
Alcohol	15	0.73
Skippedmeal	10	
OHA	20	
OHA +insulin	15	
Insulin	11	
Others	9	

Table III shows that common causes of hypoglycemia was alcohol in 15, skipped meal in 10, OHA in 20, OHA +insulin in 15, insulin in 11 and others in 9 cases. The difference was non- significant ( $P > 0.05$ ).

**DISCUSSION**

Hypoglycemia is most often associated with diabetes, particularly when people with diabetes take too much insulin or other medications that lower blood sugar.<sup>8</sup> This is known as insulin-induced hypoglycemia.<sup>9,10</sup> If one goes for an extended period without eating or don't consume enough carbohydrates, your blood sugar levels can drop. Intense exercise can lead to a drop in blood sugar levels, especially if not adequately balanced with food or insulin adjustments. Drinking alcohol can interfere with the body's ability to regulate blood sugar, leading to hypoglycemia, especially if you drink without eating.<sup>11,12</sup> Some medications, such as those for certain bacterial infections or conditions like an overactive thyroid, can lead to low blood sugar

as a side effect.<sup>13,14</sup> The present study was conducted to assess clinical profile of hypoglycaemic patients. We found that out of 80 patients, males were 48 and females were 32. The common clinical features were anorexia in 62, fever in 75, LOC in 11, syncope in 49, fall in 34, AMS in 17, FND in 31, and others in 18 patients. Su CC et al<sup>15</sup> found that there were 228 hypoglycemic patients (112 women and 116 men, ranging in age from 22 to 93 years, mean 69.6 years) identified for the study. These patients had hypoglycemia mainly due to excessive use of sulfonylureas or insulin. There was a diabetic history in 182 patients (79.83%). Other primary etiologies of acute hypoglycemia were sepsis in 13 (5.70%), and extensive liver disease in 13 (5.70%).

We observed that the common causes of hypoglycemia was alcohol in 15, skipped meal in 10, OHA in 20, OHA +insulin in 15, insulin in 11 and others in 9 cases. Ashwell et al<sup>16</sup> found that the patients had a median age of 35 years and were 52% women. All patients used multiple daily insulin injections, and none of them used insulin pumps or sensors. Patients with severe hypoglycemia were older, had lower education level and longer diabetes duration, and used beta-blockers more often than those without severe hypoglycemia. Patients with severe hypoglycemia (versus those without this complication) also had a higher prevalence of positive screening for common mental disorders (88% vs. 77%, respectively,  $p = 0.027$ ), as well as more symptoms of depression, anxiety, somatic signs, and social withdrawal. Additionally, the median DTSQs score was lower in patients with severe hypoglycemia compared with those without this complication.

The limitation of the study is small sample size.

### CONCLUSION

Authors found that common causes of hypoglycemia were skipped meal, alcohol, OHA, OHA +insulin and insulin. The most common clinical features were AMS, FND, anorexia, fever, LOC and syncope.

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