# FACTORS ASSOCIATED WITH UNCONTROLLED FASTING BLOOD SUGAR AMONG DISPLACED TYPE 2 DIABETIC PATIENTS IN THAILAND-MYANMAR BORDER

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## Background

- Type 2 Diabetes poses significant health problems among displaced populations as they faced numerous challenges in managing their condition.[1]
- Displaced people with uncontrolled blood glucose levels are at an increased risk of experiencing several health consequences which could contribute to an increased economic burden on healthcare providers. [2, 3]

## Objectives

- To explore factors related to uncontrolled fasting blood sugar among the patients living in a temporary shelter along Thailand-Myanmar border.
- To find out the association between medication adherence and uncontrolled diabetes.

## Methods

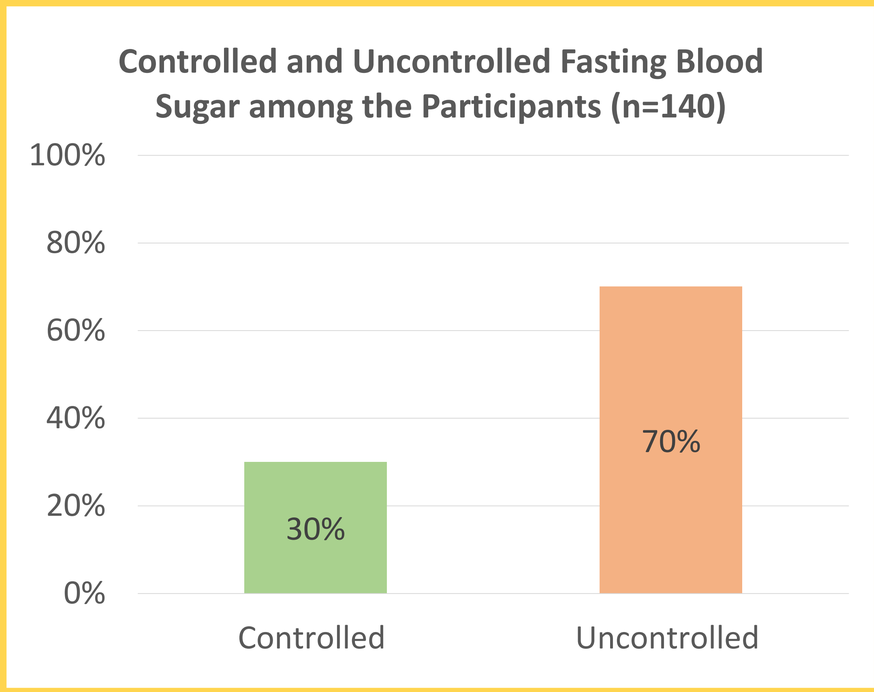
- The list of patients with fasting blood sugar levels during their last 3 OPD visits to a Health Care Center was obtained from the International Rescue Committee's database.
- There were 279 patients who were registered until the end of 2022.
- Socio-demographic information and medication adherence status from 140 patients were accessible.
- Chi-square test was used to find out the association between uncontrolled diabetes (FBS ≥ 151 mg/dL) [4] and socio-demographic characteristics as well as clinical factors.

## Results

- Among 140 patients, 70% (CI: 62.31% - 77.69%) had uncontrolled fasting blood sugar at least one time during their last three visits to the health care center.
- There was a significant association between follow-up status and uncontrolled fasting blood sugar ($\chi2 = 6.158$; $p = 0.013$)
- Types of medications prescribed is also associated with uncontrolled diabetes ($\chi2 = 18.086$; $p = 0.000$).
- However, there was no significant association between medication adherence and uncontrolled diabetes ($\chi2 = 0.705$; $p = 0.401$).

## Conclusion

- There was a significant number of patients who were not able to control their blood glucose level.
- Service providers should highlight the importance of regular follow-up visits to patients.
- Frontline workers should be monitored and provided technical support to follow the current management guideline to control the blood sugar levels of the patients.
- As lifestyle changes also play a crucial role in managing diabetes, more studies in the area are needed to explore lifestyle modification practices and their association with uncontrolled diabetes.




Factors associated with Uncontrolled Diabetes (n = 140)

| Variables | Controlled (n = 42) | | Uncontrolled (n = 98) | | Total (n = 140) | | Chi-square | P-value |
|---|---|---|---|---|---|---|---|---|
| | n | % | n | % | n | % | | |
| **Age** | | | | | | | | |
| ≤ 40 years | 1 | (9.09) | 10 | (90.91) | 11 | (7.86) | | |
| 41-64 years | 31 | (29.52) | 74 | (70.48) | 105 | (75.00) | | |
| ≥ 65 years | 10 | (41.67) | 14 | (58.33) | 24 | (17.14) | 3.857 | 0.145 |
| **Sex** | | | | | | | | |
| Male | 12 | (40.00) | 18 | (60.00) | 30 | (21.43) | | |
| Female | 30 | (27.27) | 80 | (72.73) | 110 | (78.57) | 1.818 | 0.178 |
| **Marital Status** | | | | | | | | |
| Single, separated or divorced | 4 | (28.57) | 10 | (71.43) | 14 | (10.00) | | |
| Married | 38 | (30.16) | 88 | (69.84) | 126 | (90.00) | 0.015 | 0.902 |
| **Ethnicity** | | | | | | | | |
| Karen | 34 | (35.42) | 62 | (64.58) | 96 | (68.57) | | |
| Other major ethnicities | 1 | (10.00) | 9 | (90.00) | 10 | (7.14) | | |
| Muslim | 7 | (20.59) | 27 | (79.41) | 34 | (24.29) | 4.680 | 0.096 |
| **Education** | | | | | | | | |
| No formal education | 14 | (36.84) | 24 | (63.16) | 38 | (27.14) | | |
| Primary | 16 | (27.12) | 43 | (72.88) | 59 | (42.14) | | |
| Secondary | 3 | (13.64) | 19 | (86.36) | 22 | (15.71) | | |
| ≥ High School | 9 | (42.86) | 12 | (57.14) | 21 | (15.00) | 5.539 | 0.136 |
| **Financial Situation** | | | | | | | | |
| Not enough | 24 | (26.09) | 68 | (73.91) | 92 | (65.71) | | |
| Enough | 18 | (37.50) | 30 | (62.50) | 48 | (34.29) | 1.957 | 0.162 |
| **Follow-up Status** | | | | | | | | |
| Show up on time | 6 | (66.67) | 3 | (33.33) | 9 | (6.43) | | |
| Late for follow-up | 36 | (27.48) | 95 | (72.52) | 131 | (93.57) | 6.156* | 0.013 |
| **Types of Medications** | | | | | | | | |
| Metformin | 31 | (47.69) | 34 | (52.31) | 65 | (46.43) | | |
| Metformin and Glibenclamide | 11 | (14.67) | 64 | (85.33) | 75 | (53.57) | 18.086* | 0.000 |
| **Medication adherence** | | | | | | | | |
| Adherent (≥ 80%) | 15 | (34.88) | 28 | (65.12) | 43 | (30.71) | | |
| Nonadherent (<80%) [5] | 27 | (27.84) | 70 | (72.16) | 97 | (69.29) | 0.705 | 0.401 |

## Funding

- Research for Health in Humanitarian Crises (R2HC), ELRHA

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