

# Development, validation and analysis of a self-administered Diabetes Drug Discontinuation questionnaire

Abstract No. LI2022-0949

KumarPrafull Chandra, Vivek Agrawal, Dinesh Kumar, Mukulesh Gupta, ArunKumar Pande, Nitin Ranjan Gupta, Rajiv Awasthi, Ajoy Tewari, Sajid Ansari, SantoshKumar Chaubey, Sandeep Chowdhary

**Background:** There is lack of data and definition regarding discontinuation of anti-diabetes medication in people living with diabetes.

## Aim:

1. Evaluate the extent of discontinuation of anti-diabetes medications
2. Identification of contributing factors towards discontinuation

**Methods:** A qualitative research: multicentric cross-sectional observational study

## Phase I: Development of a tool

-A questionnaire with 15 close-ended questions were developed in Hindi language by 10 experts with detailed discussion; related to discontinuation of anti-diabetes treatment.  
-It was then reviewed by 3 independent subject experts

## Phase II: Validation of the tool

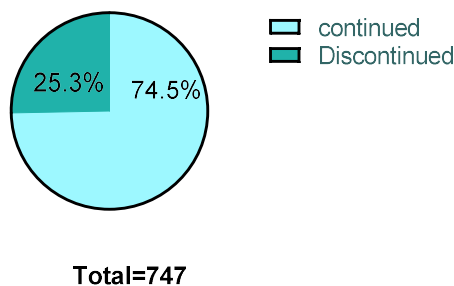
-Pilot validation in 100 individuals  
-Validation based on Item Response Theory (IRT).  
-Scalability and reliability of translation assessed with Rasch Model and Cronbach's Alpha Coefficient

## Phase III: Application of Tool

-Individuals with diabetes on anti diabetes medications for more than one month at any time since diagnosis were included in the study -Those with acute illness in past month were excluded  
-Baseline parameters were recorded  
-Patients who discontinued anti diabetes treatment for >7 days were asked to fill the questionnaire.

## Evaluating the extent of discontinuation and the contributing factors

Fig 1: Extent of discontinuation of medications



Elderly individuals, individuals with smoking and chewing tobacco habits, and those with a family history of diabetes were positively associated with stoppage of medication. Patients with poor glycaemic control and those on antihypertensives, statins and aspirin tend to follow treatment regime more regularly

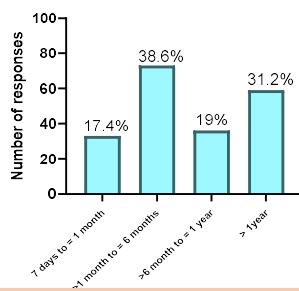
## Non-contributing factors

Gender  
Educational background  
Employment  
Locality  
BMI  
Height  
Weight  
Creatinine  
SBP  
DBP

Parameters	r	P-value
Age	0.1355	0.0002***
Pulse (per min)	-0.09555	0.0092**
FBS	-0.161	<0.0001****
PPBS	-0.1601	<0.0001****
HbA1c	-0.1059	0.0047**
Smoking	0.09421	0.01**
Tobacco in any form	0.07866	0.0316*
Alcohol	0.07388	0.0435*
Family History	0.1084	0.003**
Hypertension	-0.07588	0.0383*
Microvascular	0.1065	0.0036**
Antihypertensive	-0.07808	0.0385*
Statin	-0.07901	0.0333*
Aspirin	-0.07461	0.0485*

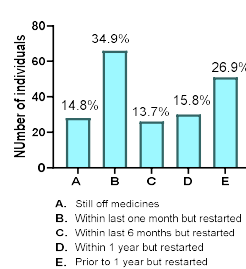
## Response to DDD questionnaire of individuals who discontinued medications

Fig 2: Discontinuation Duration



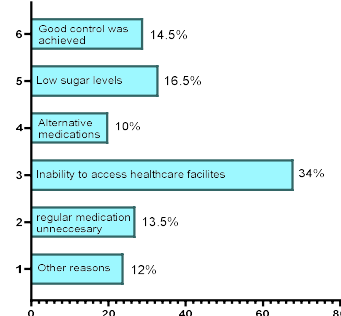
About 88% of the individuals had extended the discontinuation for more than a month. One third of the study population extended it for more than an year.

Fig 3: Discontinuation Status



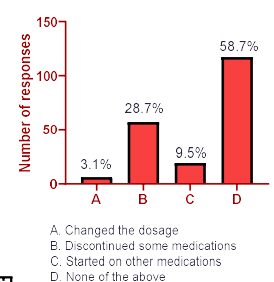
Except for 15% of individuals, rest restarted the medication

Fig 4: Reasons



The major reasons for discontinuation were inaccessibility to medications, hypoglycaemia and adequate glycaemic control.

Fig 5: Self-decided changes

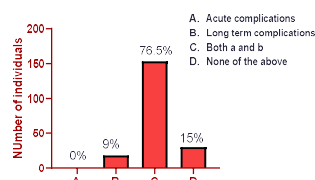


**Conclusion:** Socio-economic factors do not contribute to discontinuation of therapy.

Lack of knowledge and awareness contribute to discontinuation.

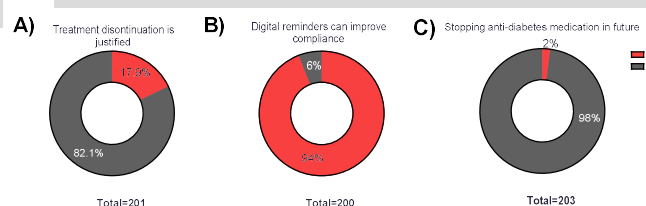
Financial Disclosure: No conflict of interest and study was self funded

Fig 6: Awareness about Complications



About three-fourth of the individuals responded That discontinuation was associated with both Long-term and short-term complications.

Fig 7: Knowledge & Awareness about Diabetes



More than 80% responded that discontinuation cannot be justified. Almost 95% opined that digital reminders were necessary. Almost all the agreed on not discontinuing the medications in future.