Factors associated with clinical inertia in achieving optimal glycaemic control in South Asia: The CARRS Trial

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BACKGROUND

- Failing to achieve optimal glycemic control ($A1c < 7\%$) has been associated with an increased risk of long-term complications among people with type 2 Diabetes Mellitus (T2DM).
- Diabetes patients often exceed desired $A1c$ levels for months prior to medication adjustments. Clinical inertia (CI) in T2DM care is characterized by a failure to intensify therapy despite inadequate treatment response and glycemic control.
- There is limited documentation of clinical inertia patterns among poorly controlled type 2 diabetes patients in South Asia.

Figure 1: CARRS Trial design

Figure 2: Intervention flow

OBJECTIVE

To assess the prevalence of and factors associated with clinical inertia in diabetes management in South Asia using data from the CARRS Trial.

METHODS

Design and Data Analysis

- We analyzed data from the intervention arm of a large pragmatic randomized controlled trial (CARRS Trial) in which 1146 T2DM patients, were randomized between March 2011 – August 2012 to receive the multi-component intervention consisting of non-physician care coordinator (to facilitate patient care) and clinical decision support software [DSS] (to enhance physician responsiveness) ($n = 575$) or usual care ($n = 571$). [Figure 1 and 2]
- Based on current $HbA1c$, fasting and post-prandial blood glucose values and medications, treating physicians were provided with DSS glycaemic prompts for up-titration if the patient was not achieving the target $HbA1c < 7\%$.
- Data were extracted for clinic visits at: 6 month, 12 month, and 24 month. CI was defined as failure to intensify treatment with > 1 additional Oral Anti-Diabetics (OAD), or insulin or increasing the dose of currently prescribed OAD/insulin during the response period of 3 or 6 months (and rejection of DSS glycaemic prompts).
- Concurrent to intervention implementation, 35 in-depth physician interviews were conducted at baseline, interim, and end of study. Physicians were asked about their experiences integrating the intervention components into their usual care practice, with a focus on the rationale behind DSS prompt acceptance and rejection.
- Interview data were deductively coded for acceptability of DSS prompts and perspectives on achieving glycaemic control, and thematically analyzed.

SPONSORS

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RESULTS

- The prevalence of CI was 39%, 44%, and 42% at 6month, 12month, and 24 months of follow-up (Table 1).
- Physicians provided several reasons why the DSS glycaemic prompts may have been rejected:
 - The recommended increase in dosage was too aggressive,
 - Patient's non-adherence to previously prescribed medication,
 - Lack of sufficient time to see improvements from lifestyle changes
 - Several physicians also stated that patient characteristics affect their approach to achieving glycaemic targets, most notably that they are stricter with younger patients when it comes to adhering to the target.

Table 1: Prevalence of Clinical Inertia (CI) in diabetes management

	6 Month		12 Month		24 Month	
	N	%	N	%	N	%
Total no. of intervention arm participants (N=575)						
No. of participants assessed	515	90%	494	86%	247	43
Uncontrolled $HbA1c > 7\%$	286	61%	222	56%	113	58%
DSS glycaemic prompt accepted and action taken by physician*, if $HbA1c > 7\%$	185	39%	176	44%	82	42%

Table 2: Prevalence of Clinical Inertia (CI) in diabetes management by various sub-groups [demographic and clinical profiles]

	N	Clinical Inertia (4%)
Male	20	41.1
Female	258	38.8
Age Categories		
35-49	158	34.5
50-64	256	51.8
≥ 65	51	13.5
Co-morbidities (at least 1)	254	51.8
Co-morbidities (at least 2)	115	26.4
Co-morbidities (at least 3)	36	7.5
Duration of diabetes		
≤ 5 years	179	37.9
6-10 years	117	28.5
11-15 years	100	15.9
> 15 years	85	17.5
Micro-vascular complications	62	33.5
Diabetic Retinopathy	35	8.6
Diabetic Neuropathy	141	27.6
Diabetic Nephropathy	40	8.6
Depression	9	33.3
Hypoglycemia	14	35.7
Cardiovascular disease	32	31.2
Peripheral vascular disease		

DISCUSSION

STRENGTHS

Our data provide first preliminary insight into patterns of clinical inertia among poorly controlled T2DM patients in South Asia,

LIMITATIONS

Unadjusted analysis. We would need to perform multiple linear regression model to adjust for confounding factors as a next step.

- The observed proportion of clinical inertia in this study was significantly lower than in US managed care settings (42% vs. 72.8%).
- The identified factors associated with clinical inertia provide a starting point for future research which should focus on understanding how provider's decision-making in response to poor glycaemic control is influenced by individual patient characteristics, needs, beliefs and attitudes

COLLABORATORS

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