

ARIC Manuscript Proposal # 3187

PC Reviewed: 6/12/18
SC Reviewed: _____

Status: _____
Status: _____

Priority: 2
Priority: _____

1.a. Full Title: Do South Asians have a higher incidence of diabetes at lower BMI levels and younger ages than other ethnic groups?

b. Abbreviated Title (Length 26 characters):

Age and BMI variations in diabetes incidence by ethnicity

2. Writing Group:

Writing group members: K.M. Venkat Narayan, Dimple Kondal, Roopa S, Anjana M, Selvin E, Hanson RL, Ali MK, Prabhakar D, Deepa M, Pradeepa G, Patel SA, Kadir M, Mohan V, Tandon N

I, the first author, confirm that all the coauthors have given their approval for this manuscript proposal. KMV [please confirm with your initials electronically or in writing]

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ARIC author to be contacted if there are questions about the manuscript and the first author does not respond or cannot be located (this must be an ARIC investigator).

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3. Timeline: To be completed and submitted to journal by January 2019

4. Rationale: It has been postulated that South Asians have high prevalence of diabetes at younger ages and lower BMI levels, but no study has directly compared age- and BMI-specific incidence of diabetes, using standard methods, with other ethnic groups.

5. Main Hypothesis/Study Questions:

Do South Asians have a higher incidence of diabetes at lower BMI levels and younger ages than other ethnic groups (Whites, Blacks, Pima Indians)?

6. Design and analysis (study design, inclusion/exclusion, outcome and other variables of interest with specific reference to the time of their collection, summary of data analysis, and any anticipated methodologic limitations or challenges if present).

Study Design: Prospective cohort

Outcome: Age- and BMI-specific diabetes incidence (defined as FPG \geq 126 or HbA1c \geq 6.5 or self-report) by sex over 8-9 years of follow-up

Populations:

1. South Asians from CARRS Cohort, representative sample of 17,000 people from Delhi, Chennai, Karachi, India with six annual follow-up
2. Pima Indians from NIDDK Cohort
3. Whites and Blacks from ARIC

Variables of Interest: Age, Sex, BMI, waist circumference, family history of diabetes.

Analysis: We will quantify and compare age- and BMI-specific diabetes incidence (per 1000 person-years) by sex for each ethnic group (South Asians, Pimas, Blacks, Whites). We will use standard survival analysis methods (Kaplan-Meier) to evaluate cumulative incidence and use Cox proportional hazards models to evaluate the relative hazards of diabetes by age and BMI categories overall and by sex. We will also calculate risk differences, using Pima Indians as the reference category.

Analyses of ARIC data will be conducted locally (at JHU) and summary estimates will be provided for this multiple cohort project.

7.a. Will the data be used for non-CVD analysis in this manuscript? ___ Yes ___ No

b. If Yes, is the author aware that the file ICTDER03 must be used to exclude persons with a value RES_OTH = "CVD Research" for non-DNA analysis, and for DNA analysis RES_DNA = "CVD Research" would be used? ___ Yes ___ No

(This file ICTDER has been distributed to ARIC PIs, and contains the responses to consent updates related to stored sample use for research.)

8.a. Will the DNA data be used in this manuscript? ___ Yes ___ No

8.b. If yes, is the author aware that either DNA data distributed by the Coordinating Center must be used, or the file ICTDER03 must be used to exclude those with value RES_DNA = "No use/storage DNA"? Yes No

9. The lead author of this manuscript proposal has reviewed the list of existing ARIC Study manuscript proposals and has found no overlap between this proposal and previously approved manuscript proposals either published or still in active status. ARIC Investigators have access to the publications lists under the Study Members Area of the web site at: <http://www.csc.unc.edu/ARIC/search.php>

Yes No

10. What are the most related manuscript proposals in ARIC (authors are encouraged to contact lead authors of these proposals for comments on the new proposal or collaboration)?

11.a. Is this manuscript proposal associated with any ARIC ancillary studies or use any ancillary study data? Yes No

11.b. If yes, is the proposal

A. primarily the result of an ancillary study (list number* _____)

B. primarily based on ARIC data with ancillary data playing a minor role (usually control variables; list number(s)* _____)

*ancillary studies are listed by number at <http://www.csc.unc.edu/aric/forms/>

12a. Manuscript preparation is expected to be completed in one to three years. If a manuscript is not submitted for ARIC review at the end of the 3-years from the date of the approval, the manuscript proposal will expire.

12b. The NIH instituted a Public Access Policy in April, 2008 which ensures that the public has access to the published results of NIH funded research. It is **your responsibility to upload manuscripts to PubMed Central** whenever the journal does not and be in compliance with this policy. Four files about the public access policy from <http://publicaccess.nih.gov/> are posted in <http://www.csc.unc.edu/aric/index.php>, under Publications, Policies & Forms. http://publicaccess.nih.gov/submit_process_journals.htm shows you which journals automatically upload articles to PubMed central.