Author’s response to reviews

Title: Development and validation of a Diabetes Risk Score for screening undiagnosed diabetes in Sri Lanka (SLDRISK)

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Version: 1 Date: 13 May 2016

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1. Many papers about the development of undiagnosed diabetes risk score have published over the past two decades. As more as built up, few systematic reviews (Collins et al. BMC Med 2011; Thoopputra Diabetes Metab Res Rev. 2012; Brown Diabetes Res Clin Pract. 2012) were published to summarize main finding. The similarities and differences between this risk score and common risk score identified in previous risk scores should be reported

Response - This has been done

In validation of SLDRISK, the performance of the SLDRISK was compared to that of existing risk scores. However, comparisons of only one for UK white Europeans (Cambridge Risk Score) and one for Asian Indian (Indian Diabetes Risk Score) need justification. Authors should add few Asian risk score (Wong J Diabetes 2015; Zhou Diabetes Care 2013; Liu Diabetes Technol Ther. 2011; Gao Diabet Med. 2010; Ko Diabet Med 2010) for comparisons and validation, unless your dataset did not carry sufficient information for other risk scores calculation. If the performances of those risk scores applied to Sri Lankan population were poor, the utility of your risk score will be strengthened.

We believe comparison with one european and one asian risk score would be enough. Sri lankans genetically and geosocioculturally have the closest link to India. Thus if our score performs better than Indian risk score which is desingned for Indian population it should be better than risk
scores defined for totally unrelated population. Thus comparing with many other risk scores would be unnecessary.

When gestational diabetes was one of the risk factors in SLDRISK, it raises a concern on whether the risk score will be accurately separated into two; one for male and one for female. In copy of SLDRISK in appendix A, male must score zero when considering gestational diabetes (Diabetes during pregnancy). From male and female perspective, the interpretations of 'Total Score' are different. Possible solution are 1) to develop a score specific to male and female, and 2) remove gestational diabetes as list of risk factor for consideration

In the literature there are published risk scores which have included gestational diabetes as a risk factor but have done a common risk calculation

eg: Diabetes risk calculator by Hikes et al published in diabetes care (http://care.diabetesjournals.org/content/31/5/1040.full)

4. The probability of undiagnosed diabetes for respective risk score should be reported. Appendix A simply reported the probabilities when score>31 and score <=30.

This has been modified in the appendix A

5. Table 1. The characteristics of development and validation should be reported and compared.

This has been done

6. Table 2: Please show the P-value of risk factors

This has been done

Minor

A sample of 4246 adults was reported in abstract but the main text reported 4276.

This has been corrected