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Letter to Editor

Biochemistry Section

Correspondence: Prevalence of Iron Deficiency and Iron Deficiency Anaemia in Adolescent Girls in a Tertiary Care Hospital

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Dear editor,

We read with great interest the original article contributed by Kumari R et al., [1]. The study was conducted to ascertain the prevalence rate of anaemia in adolescent girls attending a tertiary care hospital in Bihar. Overall message from the study was concise and clear. However, we felt that there were some potential deficiencies in the design of the study. Hence, we intended to convey those deficiencies to authors and journal's readers.

Authors recruited the patients (i.e., subjects) from medical Outpatient Department (OPD) or emergency. They took the convenience sample from the age group of 10-19 years. For inclusion of subjects up to 12 years, authors might have recruited patients from the paediatric OPD too. However, this was not mentioned.

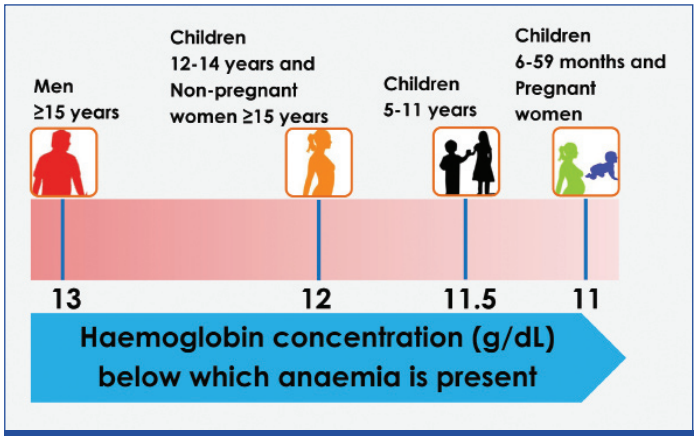
The research which includes subjects below the age of 18 years, consent has to be taken from the parents of the subjects. In addition, subjects should be informed about the detailed procedure of the study [2]. In the study, authors took consent from the patients only. Authors could be more careful about this issue to avoid any legal consequences, if they arise.

The recruited subjects were attending a tertiary care hospital OPD or emergency; hence, there might be some medical conditions for which they came to hospital. These could be informed to the readers.

As the authors recruited sample from the age range of 10-14 years, some girls may not have menarche at this age range. The level of haemoglobin may vary according to the menstrual status of the girl. Hence, the authors could include this in a table with other demographic details like food habit, level of education etc.

For determination of prevalence of anaemia, the World Health Organisation (WHO) recommends two methods of haemoglobinometry (cyanmethaemoglobin method and HaemoCue system) [3]. However, the authors used Sahli's method for estimation of haemoglobin concentration which has several disadvantages [4]. They stressed more on determination of level of iron, total iron binding capacity and ferritin with automated devices. However, the authors did not pay that much attention in haemoglobin concentration estimation which is the principal screening tool for anaemia.

For both the age group 10-14 years and 15-19 years, authors used the same cut-off value (<12 g/dL) for determination of anaemia. However, according to WHO, children of 5-11 years have a cut-off value of 11.5 g/dL [3,5]. As the authors included subjects of 10-14 years age range; hence, cut-off of 12 g/dL might be a source of potential error in the study result. For a quick review of cut-off values for different age groups, as suggested by WHO, we prepared a pictorial presentation in [Table/Fig-1].



[Table/Fig-1]: Cut-off values of haemoglobin concentration for diagnosis of anaemia in different categories according to World Health Organisation [3,5].

Hope this correspondence would help researchers to consider the different level of haemoglobin concentration cut-off for different category of subjects in their future studies.

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AUTHOR'S REPLY

Yes, patients might have been taken from paediatric OPD as well. However, as we got sufficient number of patients, so patients from paediatric OPD were not taken. In the respect of consent, it has been taken from parents in the age group below 18 years of age. The patients, who were suffering from any major illness, were excluded from the study. Cyanmethaemoglobin method is the best laboratory method for haemoglobin estimation, but it can be done by Sahli's method also.

The cut-off level of haemoglobin has been taken from Guidelines for Control of Iron Deficiency Anaemia [1]. We had considered one level of haemoglobin for adolescent girls for diagnosis of anaemia. The stratification of haemoglobin level according to age group among the adolescent group will be done in next study.

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