PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	Anemia prevalence in children newly registered at UNRWA schools: a cross-sectional study
AUTHORS	AbuKishk, Nada; Turki, Yassir; Saleh, Suha; Albaik, Shatha; Hababeh, Majed; el-Khatib, Zoheir; Kassim, Nimer; Arab, Hasan; Abu-Diab, Khawalah; Zeidan, Wafaa; Seita, Akihiro

VERSION 1 – REVIEW

REVIEWER	Dr Sarah Atkinson KEMRI-Wellcome Trust Research Programme, Kenya and Department of Paediatrics, University of Oxford, UK
REVIEW RETURNED	23-Jan-2020

GENERAL COMMENTS	This study describes the prevalence of anaemia, underweight, stunting and thinness among Palestinian refugee children aged between 5 to ll years of age. It also relates the prevalence of these variables to sociodemographic factors such as gender, living in or outside refugee camps. It also compares these factors to a similar survey conducted in 2005. The study includes a large sample size of 2419 school children and is interesting data. My comments are as follows: Abstract: It would be helpful in the abstract to define the abbreviation UNRWA and also to give the definitions for stunting, wasting and underweight. It is also noted that the abstract gives the term wasting, although elsewhere in the manuscript and in the methods the term thinness is used. The word 'fields' is a bit unclear although I think that it refers to the health centres in the different countries. Different terminology would help understanding. In the conclusion please state what the increase in the prevalence of anaemia was from i.e. what was the prevalence in 2005. Article Summary: It would be helpful to describe what the field specific issues were in Jordan in the methods section or in supplementary materials. Introduction: The 5th paragraph of the discussion describing the prevalence of anaemia in other school age children could be moved to the Discussion section and the Introduction could generally be shortened. Why was Jordan left out of the previous study in 2005? The studies on anaemia described may have different cut-off points for defining anaemia and it would be helpful to state what these are as they might explain the reason for the different findings. Methodology: The authors should explain why the first stage of the sampling process was based on the prevalence of anaemia from a previous study. Why was this necessary? The methods used for measuring weight and height is not included. Reference should be given for the WHO Nutrition Landscape Information System for the country profile. Why was weight for height / wasting not considered as a variable? In addition to Chi-square testing were univariate and multivariate analyses also considered? Ethical considerations: Would be good if possible to

	include an ethical approval number. Was there a reason for not collecting written consent? Please detail what the 'curative anaemia treatment' that was given was. Results: Mean weights and heights are not very helpful for such a wide age group from 5 to 11 years of age and I would recommend presenting these by age group. Could Tables 3.1 and 3.2 be combined as they both contain data based on anthropometric measurements. Table 5 also contains data on anthropometric measurements and is a bit repetitive with Table 3.2. The first part of Table 5 on anaemia status could also be combined with Table 4. It would be very helpful to have a Table that summarizes the results presented on the relationships between anaemia status, nutritional parameters and other sociodemographic variables. Page 9, line 16 the results for the undernutrition indicators are repeated and they are already mentioned in the previous section. Discussion: This is good although might benefit from being presented in the same order as the Results section. Also needs a section on the limitations of the study. The manuscript needs editing for English language including grammar and spelling, for example: page 2, line 2 ‘Anemia is one important eliminate’, page 3, Line 21 'UNRWA implements several programs at its schools within a system-wide approach According to its School Health Strategy'. Discussion first paragraph “ The study reviled that the prevalence of anemia among the target population was 25.0%” Overall a nice study, but needs some improvement with structuring, presentation of findings and English language.

VERSION 1 – AUTHOR RESPONSE

This study describes the prevalence of anaemia, underweight, stunting and thinness among Palestinian refugee children aged between 5 to ll years of age. It also relates the prevalence of these variables to sociodemographic factors such as gender, living in or outside refugee camps. It also compares these factors to a similar survey conducted in 2005. The study includes a large sample size of 2419 school children and is interesting data.

My comments are as follows:

Abstract: It would be helpful in the abstract to define the abbreviation UNRWA—**has been added**

and also to give the definitions for stunting, wasting and underweight. —**has been added**

It is also noted that the abstract gives the term wasting, although elsewhere in the manuscript and in the methods the term thinness is used. —**Modified**

The word 'fields' is a bit unclear although I think that it refers to the health centres in the different countries. Different terminology would help understanding —**had been modified to be more clear.**

In the conclusion please state what the increase in the prevalence of anaemia was from i.e. what was the prevalence in 2005. —**DONE**

Article Summary: It would be helpful to describe what the field specific issues were in Jordan in the methods section or in supplementary materials. — **it is more clear now in the limitations of the study before the conclusion.**

Introduction: The 5th paragraph of the discussion describing the prevalence of anaemia in other school age children could be moved to the Discussion section— **done**

and the Introduction could generally be shortened. —**very much shorter now**

Why was Jordan left out of the previous study in 2005? —**amend it**

The studies on anaemia described may have different cut-off points for defining anaemia and it would be helpful to state what these are as they might explain the reason for the different findings. — **this is more addressed in the discussion.**

Methodology: The authors should explain why the first stage of the sampling process was based on the prevalence of anaemia from a previous study. Why was this necessary? —because UNRWA has been serving the same population for over 70 years, and with the same health centers in the same camps. so we used a reference point from the same population and same agency serving this population. The national data (host country is quite different than population living inside the camps)

The methods used for measuring weight and height is not included. Reference should be given for the WHO Nutrition Landscape Information System for the country profile. —it has been added now, referencing to the WHO

Why was weight for height / wasting not considered as a variable? —because the wasting is for children <5years old, the term thinness is used for child above 5 yrs. This is a WHO terminology. link below

https://apps.who.int/gho/data/view.main.NCDBMIMINUS205-19Cv

In addition to Chi-square testing were univariate and multivariate analyses also considered? —this is added now.

Ethical considerations: Would be good if possible to include an ethical approval number. — we got an internal ethical approval from the review committee of UNRWA in the health department.

Was there a reason for not collecting written consent? —yes, this is not the norm for refugee population, it is explain now in the document.

Please detail what the 'curative anaemia treatment' that was given was. —done

Results: Mean weights and heights are not very helpful for such a wide age group from 5 to 11 years of age and I would recommend presenting these by age group. — there no wide range of 5-11, all children were around 6 years old as they were first grader. There are few cases where children were above 6 years and below 5. So doing category wouldn't add much difference to the age variable.

Could Tables 3.1 and 3.2 be combined as they both contain data based on anthropometric measurements. —done

Table 5 also contains data on anthropometric measurements and is a bit repetitive with Table 3.2. — done

The first part of Table 5 on anaemia status could also be combined with Table 4. —done

It would be very helpful to have a Table that summarizes the results presented on the relationships between anaemia status, nutritional parameters and other sociodemographic variables. — I changed the tables layout and contents.

Page 9, line 16 the results for the undernutrition indicators are repeated and they are already mentioned in the previous section. —deleted

Discussion: This is good although might benefit from being presented in the same order as the Results section. —done

Also needs a section on the limitations of the study. —added

The manuscript needs editing for English language including grammar and spelling, for example: page 2, line 2 ‘Anemia is one important eliminate’, page 3, Line 21 'UNRWA implements several programs at its schools within a system-wide approach According to its School Health Strategy'. Discussion first paragraph “ The study reviled that the prevalence of anemia among the target population was 25.0%” Overall a nice study, but needs some improvement with structuring and English language. —this document was edited and reviewed by 2 addition people.

VERSION 2 – REVIEW

REVIEWER	Sarah Atkinson KEMRI-Wellcome Trust Research Programme Kilifi, Kenya
REVIEW RETURNED	04-Jun-2020

GENERAL COMMENTS	This study presents a cross-sectional survey of the prevalence of anaemia in children entering first grade at United Nations Relief Work Agency Schools for Palestinian refugees in West Bank, Gaza, Lebanon and Syria. The study found that the prevalence of anaemia was high at 25% and had increased from a previous study in 2005. Prevalence of mild and moderate anaemia were highest in Syria and Gaza. The prevalence of underweight and thinness were highest in Syria. There was a higher prevalence of underweight among children with anaemia. The authors have addressed my previous comments. The manuscript just requires minor editing for English language.