



SDI Review Form 1.6

Journal Name:	European Journal of Nutrition & Food Safety
Manuscript Number:	Ms_EJNFS_35745
Title of the Manuscript:	IEC (Information Education Communication) module as an effective tool for mitigation of iron deficiency anaemia among rural adolescent girls of Uttarakhand, India
Type of the Article	Original Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<http://www.sciencedomain.org/journal/30/editorial-policy>)

PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	<p>Authors attempted to show that three month efforts consisting of "Information, Education, and Communication" regarding anaemia improves adolescent girls' knowledge, attitude, and practice" in life style and choice of foods, and in turn reduces risk of anaemia. This paper describes the authors' laudable study. However, there is a number of problems I found in this study. I will list and explain in order they appeared in the text.</p> <p>Abstract IEC needs to be spelled out even though it appears in the title Exactly what is the curriculum of IEC?</p> <p>Subjects; Why just girls? Exclusion and inclusion criteria? How many girls with the chosen ages are eligible for this study?</p>	<p>Following are the responses to the reviewer's comments: Each query and our responses is highlighted in the same color.</p> <p>Full form of IEC has been given in the abstract.</p> <p>12 IEC messages listed in the methodology formed the curriculum for the intervention. Tools used for delivering the messages were lectures, trainings, method demonstrations, video films and slide shows. A module has been developed for replicability of the intervention.</p> <p>Subjects: Girls were chosen for the present study because it is an established fact that adolescent girls are more prone to anemia as compared to boys. Girls whose Hemoglobin levels were above 12 DL or whose parents did not give consent for the study were excluded.</p> <p>Anaemic girls in the study area were eligible for the study.</p> <p>Rural means an area where a population of</p>



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	<p>What is the definition of “rural”?</p> <p>Why 288 subjects were selected? Is this a number that needed to show a difference in the outcome? (which outcome, haemoglobin level? Survey scores?)</p> <p>What type of information was collected in “KAP”? Is this a previously validated tool?</p> <p>Introduction, Line 44 and 45, describe examples of “lasting impact of anaemia” cite some references. Line 53, this statement may apply to women with severe anaemia, cite some references</p> <p>Materials and Methods, Locale. Why the experimental group subjects and control group subjects are selected from different schools? Are they equivalent in SE status of the family, culture, education of parents and siblings, health status, medications they are taking such as iron, vitamins, etc.? Sample characteristics, needs references for the proportion of anaemia girls quoted here.</p> <p>2.3.1 Screening subjects. Authors set inclusion criteria for age between 13 and 16 with haemoglobin equal to or below 11.9 g/dL. Thus the following sentence does not make any sense; Non anaemic subjects in the age group below 13 and above 16 years were excluded from the study.</p>	<p>less than 5,000, density of population less than 400 per sq km and more than "25 per cent of the male working population" is engaged in agricultural pursuits.</p> <p>Sample size was estimated using formula</p> <div>$n = \frac{t^2 \times p(1-p)}{d^2}$</div> <p>t= confidence level at 95 % → standard value 1.96 n = Required sample size P_{expected} = Expected prevalence of anaemia d² = Desired absolute precision</p> <p>A Knowledge, Attitude and Practices (KAP) survey is a quantitative method (predefined questions formatted in standardized questionnaires) that provides access to quantitative and qualitative information. KAP surveys reveal misconceptions or misunderstandings that may represent obstacles to the activities that one would like to implement and potential barriers to behavior change.</p> <p>Introduction Reference has been given for lines 44 and 45.and highlighted</p> <p>Materials and methods Locale: The reason behind selection of different locations for 2 groups is to check cross pollination, to prevent leakage of IEC from experimental group to control group. Both the groups belonged to the same region, had similar socioeconomic status and cultural practices. Reference has been given for the proportion of anaemic girls. No nutrition supplementation programme was going on during the study. 2.3.1 Screening subjects: The suggested revision has been made in the manuscript.</p> <p>Estimation of sample size was carried out as per the formula given above, and the</p>
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	<p>How did the authors arrive at the number of 400 girls to be screened? How were they selected? How the authors arrive at the number 200 to be included in the study? At what level of power were they looking for and at what level of confidence? These will determine the number of subjects needed. Why the 12 girls were dropped out? Were there any special characteristics in these drop outs?</p> <p>2.4 Research Design How the KAP scores were obtained? How each component of KAP (knowledge, attitude, and practice) was assessed? Was each component equally weighted? Was the KAP score validated? Please cite a reference or two regarding KAP score. Were the KAP scorers blinded as to which group the subjects belonged to? Subjects were not randomized into experimental or control group, and there is no assurance by the authors that they were similar or equivalent.</p> <p>2.6 IEC interventions. Though each session's titles were listed, there are no details regarding which media (e.g. pamphlet, book, slide shows, demonstrations etc.) was used for which topic, and time spent for each topic. Furthermore there is no accounting as to whether all subjects in experimental group spent equal amount of time for each subject. It is also unknown whether control subjects had occasions to discuss about this program with experimental group subjects (cross pollination). Without these details, readers will not able to duplicate the results. Also authors fail to state if any subjects were allowed to take any iron medications. This is critical.</p> <p>Table 3 The number of control subjects in pre-IEC adds to 143, and one is missing.</p> <p>Results The KAP scores, for what they are worth, showed small differences between the experimental and control groups on each of 3 categories (KAP), but these differences were not statistically significant by t-test. There are no confidence intervals described</p>	<p>sample size came to 300. In order to select 300 samples a total of 400 girls were screened at random. 12 girls dropped out of school after the IEC intervention had started so the final sample size came to 288.</p> <p>2.4 Research Design The questions of the KAP schedule were assigned scores. Score 1 for the correct and 0 for the wrong answer. Thus mean score for each component was obtained. Each component (KAP) was equally weighted and validated and consisted of 10 questions in each. References have already been given for KAP scores in the discussion. KAP scorers were blinded to the groups. Subjects of selected locations belonged to similar socioeconomic status and cultural background. All subjects were students of the Govt High schools. Subjects were purposively allocated to 2 groups.</p> <p>2.6 IEC interventions. Methodology& tools of IEC intervention have been mentioned above. The researchers were allocated regular class periods for carrying out intervention programmes ensuring uniformity in the time spent for conducting the IEC. As experimental and control group were from different locations there was no cross pollination. The issue of supplementary nutrition has been addressed above.</p> <p>Table 3: Changes have been incorporated in the table and the text and highlighted.</p> <p>Results: Confidence interval is 95 % and mentioned in the table 1. In the present study improvement in KAP scores was found statistically non significant at 95% interval. However the improved KAP scores may affect the haemoglobin levels of the subjects.</p>
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	<p>in the table. It is not at all certain if these differences are clinically significant. However, there was a significant difference in the haemoglobin levels between the experimental and control group at the end of IEC sessions. With little differences in KAP, it may indicate that the experimental group subjects may have taken iron supplements on their own. Since evidently the study did not prohibit subjects to take iron supplements on their own, this is very possible.</p> <p>In summary, this study is poorly designed, and many details of the subjects' characteristics, methods of selecting subjects, and the reason for selecting 300 subjects, intervention methodology, and how data analyses were performed are missing. Therefore the results are impossible to interpret. Without these details, readers would find impossible to duplicate this study. It may be that education regarding importance of iron to adolescent girls motivated them to start taking supplemental iron and therefore this may be the reason for the improved haemoglobin, not IEC.</p>	
Minor REVISION comments	There are many grammatical errors, and some misspelling.	Grammatical errors, misspellings have been rectified.
Optional/General comments		