

Effect of adolescent-led school-based intervention for improving adolescents nutrition in selected schools of Sarlahi district: a mixed methods study

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Rationale

- Adolescence is a crucial stage of rapid physical, cognitive, and psychosocial development. Adolescence has also been identified as the second window of opportunity for the correcting nutritional inadequacies and laying the groundwork for lifelong health in adulthood. (Sparrow et al., 2021)
- Nepal has enacted various policies, strategies, plan and programs that underscores the government's commitment to improve adolescent nutrition. Despite of all these efforts made, malnutrition among adolescent remains a major challenge in Nepal.
 - 32 percent adolescents are stunted,
 - 20.5 percent adolescent girls are anemic,
 - Only 43 percent adolescent girls and 48 percent adolescent boys are meeting the minimum dietary diversity (NNMSS 2016)

Rationale contd...

- Only 17 percent of adolescent girls and boys participated in the school health and nutrition program, a missed opportunity for nutrition education to children and adolescents. (UNICEF Nepal, 2016)
- Adolescents are the untapped resource for progress - they have the potential to become an influential agents of change for improving nutrition. However, they require access to information and opportunities that enable them to actively engage in shaping interventions to take care of their own nutritional needs and well as needs of other members in the community.
- This study examined the effect of an adolescent led school-based intervention, aimed at improving nutritional outcomes among adolescents in the selected schools within three municipalities of the Sarlahi district of Madhesh Province, one of the province with the highest rates of undernutrition and anemia in Nepal.

Objectives



The study aimed to observe the effect of the adolescents led school-based intervention from baseline to 9-month post-intervention.



Nutrition knowledge, dietary diversity, nutrition status, health knowledge and hygiene practices.



National weekly iron folic acid supplementation (WIFAS) and deworming program coverage.



Access and consumption of unhealthy food.

Testing of School-Based Interventions for Improving Adolescent Nutrition in Sarlahi

(PROJECT POSHAN)



Intervention



Nutribeads (Nutrition) bracelet



Redcycle (Menstruation) bracelet



Adolescent Nutrition Training Manual



Iron Folic Acid bracelet

- The intervention was implemented in coordination with three level of government (at central, provincial, and local levels), and school administration
- The intervention primarily focused on capacitating and mobilizing adolescents from five intervention schools in three municipalities: Harion, Bagmati, and Barahathawa
- Training manual and study tools were developed in consultation with all the stakeholders

Innovative Intervention Tools



Daily Food Journal

Intervention

- The intervention comprised a **four-days boot camp/training program** consisting of 10 sessions covering multi-sectoral aspects of adolescent **nutrition**
- **25 adolescents** were trained and mobilized in each of the five intervention schools for implementing monthly school nutrition programs for 9 months through the 'Nutrition Club'
- Inclusion of out-of-school adolescents was also ensured in the intervention



Nutrition and Health Bootcamp in Schools

Methods



The quantitative study utilized data from adolescent students across the 10 selected community schools. The schools were categorized into intervention and control groups using a convenient, non-randomized approach.



The adolescents from grade 7, 8 and 9 were recruited conveniently to participate in the study. Data was collected through a self-administered questionnaire for each grade in each school.



Bivariate analysis and multivariable analysis using generalized estimating equation (GEE) models were used to analyze the effect of the intervention



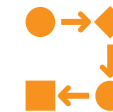
The qualitative data comprised key informant interviews (KII) with stakeholders at the school level, community level, and government authorities



Focus group discussions (FGD) with school going adolescents, out-of-school adolescents, and parents

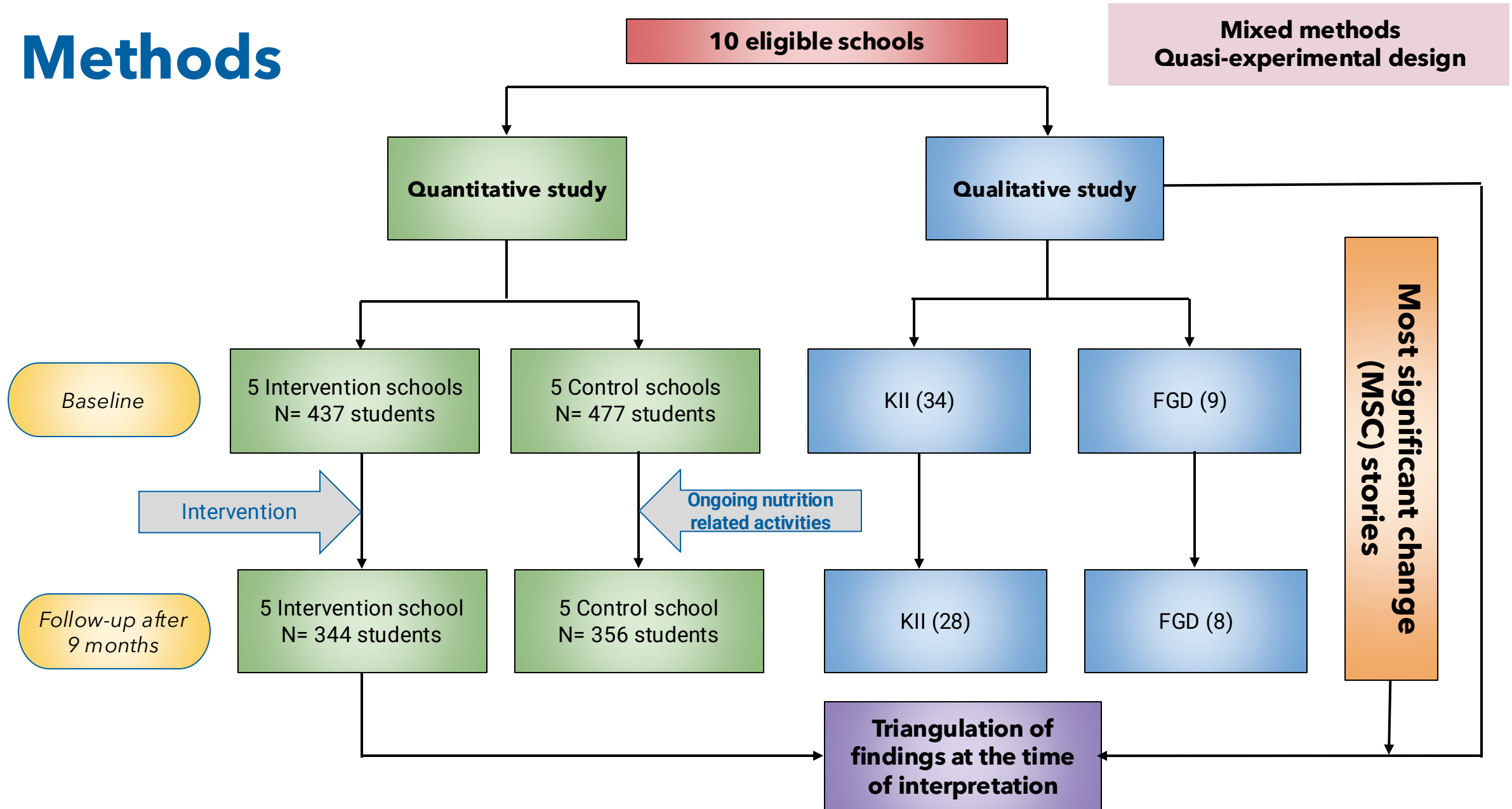


Thematic analysis was conducted on the qualitative data based on the five priority themes generated from the baseline study.



The Most Significant Change Stories (MSCS) were analyzed based on the changes reflecting the intervention process.

Methods



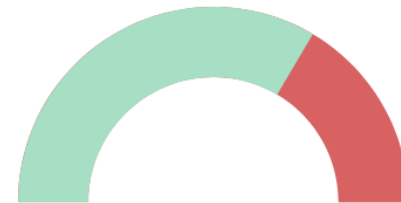
Results: Quantitative



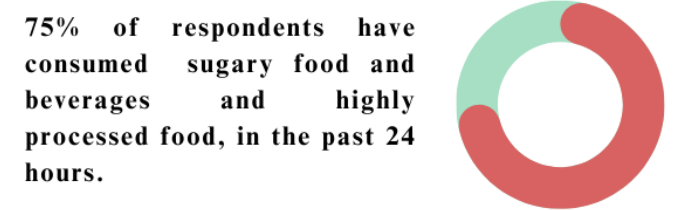
10% of female were found to be underweight whereas it was 39% among male respondents



Around 34.8% of adolescents consumed unhealthy, ultra processed food from local shops/stalls/ markets in the tiffin break



69% of respondents consumed medicine for worm infestation in the past 6 months



75% of respondents have consumed sugary food and beverages and highly processed food, in the past 24 hours.



57% adolescent girls were consuming iron folic acid (IFA) tablets as per the schedule.



79% of the participants had access to a smartphone and 84% had access to internet services.



53% of respondents were aware about anaemia

Results: Quantitative

Variables	Intervention Mean (SD)	Control Mean (SD)	Mean Difference (S.E)	P-value ^a	DID Coefficient (S.E)	P- value ^b
BAZ cut-off scores						
Baseline						
Undernutrition	43 (46.24)	50 (53.76)	16.27	0.413	0.018 (0.036)	0.622
Normal	381 (48.91)	398 (51.09)	4.45			
Overweight and obese	12 (37.50)	20 (62.50)	50			
Follow-up						
Undernutrition	20 (40.82)	29 (59.18)	36.7	0.331		
Normal	310 (50.16)	308 (49.84)	0.64			
Overweight and obese	14 (42.42)	19 (57.58)	30.32			

Key quantitative findings from the endline survey

Outcomes	Effect of the intervention
1 Improvement in awareness about iron folic acid distribution in school	↑
2 Improvement in iron folic acid intake regularly	↑
3 Improvement in awareness about deworming program in school	↑
4 Improvement in consumption of healthy food in school	↑
5 Improvement in reduction in access to unhealthy food in school	No effect
6 Improvement in nutrition status	No effect
7 Improvement in intake of deworming tablets in the past 6 months	No effect
8 Improvement in Hygiene practices	No effect
9 Improvement in Dietary Diversity score	No effect

Results: Qualitative



Improvement in efforts for implementing school-based activities targeting coverage of iron folic acid supplementation, deworming, and raising awareness on health and nutrition issues.



Improvement in implementation and monitoring particularly for distribution of iron folic acid and deworming in the school and in the community after the intervention.



Improved awareness and attitude towards school health and nutrition among the stakeholders from schools and local government.

Results: Qualitative



Need of parents and community engagement in addition to school-based activities for sustained behavior change.



Need of additional efforts, particularly for inclusion of socio-economically disadvantaged and vulnerable groups in the program.



School teachers and local leaders from municipalities are recognized as primary drivers to ensure sustainability of the intervention.

Conclusion

- **School is a valuable and cost-effective platform** for reaching large number of children and adolescents with nutrition intervention.
- **Capacitating and engaging adolescents as change-agents** of their own communities can lead to improvement in adolescent nutrition.
- The localized intervention brought adolescents together with local government, school management, parents and other multi-sectoral stakeholders, to sensitize on the issue of around nutrition. It also **facilitated intergenerational dialogues and collaboration** around nutrition.
- There are existing cost-effective entry points for **integration of this intervention through national and local campaigns**, such as National School Health and Nutrition Week, National WIFAS and deworming program, Handwashing day, Menstrual Hygiene Day etc.
- For scale up, the **intervention need to be integrated within the National Nutrition Policy framework** for strengthened accountability, ownership, and budget/resource allocation to implement affordable and sustainable solutions for promoting nutrition knowledge and healthy dietary practices.

THANK YOU!!

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