ORIGINAL ARTICLE

Empowered To Cook Shrimp-Based Meal for Anemia Prevention Among Adolescence Females

RINA OKTASARI, ALMIRA SITASARI, ULFA MALIKA PUTRI RAHARJA, *RISKA DWI CAHYANINGTYAS, OKTADHEA FANNY PRAJAKA*
Poltekkes Kemenkes Yogyakarta, Jalan Tata Bumi no. 3 Yogyakarta
Correspondence to Rina Oktasari, Almira Sitasari Email : almira.sita@poltekkesjogja.ac.id

ABSTRACT

Local shrimp-based food is very potential to create national food security stocks. The abundance of local food rich in Fe in Poncosari Village can be used to tackle anemia among adolescent females. In 2018 there were 48.9% of young women in Indonesia suffered from anemia. Empowerment on processing meals from local shrimp to young women is expected to increase knowledge and attitudes about nutrition, especially about anemia prevention and balanced nutrition. This study aims to determine the effect of empowerment on knowledge and attitude of anemia prevention, shrimp product, shrimp based meal cooking and balanced nutrition. This was *quasy experiment*, using a *pretest-posttest without control group design*. Data were collected using a questionaire and analyzed using paired T-test and wilcoxon Signed Rank Test. There was difference between pre and post test score on anemia prevention knowledge (p=0,001) and balanced nutrition knowledge (p=0,001) but not on shrimp based meal cooking attitude (p=0,257). There was difference between pre and post test score on anemia prevention attitude (p=0,001), shrimp based meal cooking attitude (p=0,008) but not on balanced nutrition attitude (p=0,148). Empowerment on shrimp-based meal cooking can affect anemia prevention and balanced nutrition knowledge and also anemia prevention and shrimp based meal cooking attitude.
Keywords : Shrimp-based meal, cooking, empowerment, anemia, balanced nutrition

INTRODUCTION

Local food products in each region also vary according to the geographical conditions of each region. Indonesia which has a geographical area of land and sea has potential food source on sea produce such as shrimp [(1)]. Animal protein such as beef, chicken and various types of fish are rich in Fe [(2)]. The abundance of sea produce can be used to tackle anemia in local area. In 2018, there were there were 48.9% young women aged 15-25 and 25-34 suffered from anemia [(3)]. Nutrition workshops and cooking classes in can influence healthy eating habits among school-aged children. There is some evidence for an association between teaching cooking skills and improved nutrition knowledge, changing food preferences, increased confidence in cooking skills and healthier eating habits [(4)(5)]. Some evidence shows that cooking or food preparation was listed as an activity in a number of multi-strategy obesity prevention studies and healty eating education [(6)(7)]. Thus, the research aimed to investigate whether empowering young females to cook shrimp-based meal programme can improve knowledge and attitude on anemia prevention and balanced nutrition

METHOD

This research was a quasi experimental study with pretest-postest without control group design. Participants were recruited from among the adolescence females in Poncosari Village, Bantul which also produce shrimp largely. After the participants had recieved information about the study and had given their informed consent, the procedure of the study was explained in further detail. Fifty-seven young females participated in the 6-hours balanced nutrition education, education about shrimp, anemia prevention education, and shrimp-based meals cooking training programme. Respondents were exposed to the intervention in Culinary Laboratorium Poltekkes Kemenkes Yogyakarta. A-twenty-four points questionnaire was handed out to the participants twice before and after the nutrition education and training programme. Data were analyzed using t-test. Ethics approval was obtained from Komisi Etik Poltekkes Kemenkes Yogyakarta.

RESULTS

Respondents' age ranged 12-18 years and were residence of Poncosari Village. When comparing knowledge on anemia prevention, shrimp product, balanced nutrition, and cooking technique, all values increased significantly except knowledge on shrimp product as seen in Table 1.

Giving cooking training to improve knowledge of anemia prevention, balanced nutrition and cooking technique is known to be effective. Pretest and posttest comparison indicates that there were significant increase on attitude score of anemia prevention, shrimp product, balanced nutrition, and cooking technique after the intervention as seen in Table 2.

One way that can be done to increase knowledge is to do non-formal education. One application of non-formal education is carried out in the form of education and training which is education based on community empowerment The method used in this research training is cooking training. Cooking training can be an effort to change someone's behavior that is used through an educational approach, which means as a series of activities carried out systematically, planned, and directed to solve a problem[8].

Changes in knowledge occur because of the acquisition of insight or information about a particular object Knowledge will be the starting point for changes in attitudes and lifestyles which in turn changes behavior[(9) (10)]. The activity in this study had the effect of education and training

with counseling methods on knowledge about anemia in adolescent girls in Poncosari Village, Srangkap, Bantul that there was a change in respondents' knowledge after being educated.

Table 1: Knowledge on Anemia Prevention, Shrimp Product, Balanced Nutrition, and Cooking Technique Before and After the intervention (n=57), using Wilcoxon Sign Ranked Test

	Score		Mean	Std. Deviation	p
	Min	Max			
Anemia prevention					
Before	0	3	1,91	0,808	0,000
After	1	3	2,49	0,685	
Shrimp product					
Before	1	2	1,86	0,350	0,257
After	0	2	1,91	0,685	
Balanced Nutrition					
Before	0	2	0,82	0,685	0,000
After	0	2	1,35	0,551	
Cooking Technique					
Before	0	3	2,26	0,813	0,000
After	1	3	2,77	0,598	

Table 2: Knowledge on Anemia Prevention, Shrimp Product, Balanced Nutrition, and Cooking Technique Before and After the intervention (n=57), using T-Test

	Score		Mean	Std. Deviation	P
	Min	Max			
Anemia prevention	21	35	30,61	2,975	0,000
Before	25	35	31,89	2,454	
After					
Shrimp product					
Before	5	10	7,58	1,209	0,008
After	5	10	7,63	1,331	
Balanced Nutrition					
Before	12	20	17,35	1,642	0,148
After	16	20	18,35	1,343	
Cooking Technique					
Before	0	3	2,26	0,813	0,000
After	1	3	2,77	0,598	

CONCLUSION

This study offers a unique contribution to the existing literature on nutrition education that can be used for anemia prevention knowledge and attitude among young females using cooking training intervention.

REFERENCES

1. Gordon D V., Bjørndal T. A comparative study of production factors and productivity for shrimp farms in three Asian countries: Bangladesh, India, and Indonesia. Aquac Econ Manag. 2009;13(2):176–90.
2. Kawarazuka N, Béné C. The potential role of small fish species in improving micronutrient deficiencies in developing countries: Building evidence. Public Health Nutr. 2011;14(11):1927–38.
3. Indonesia KKR. Hasil Utama Riskesdas 2018 [Internet]. Kementerian Kesehatan Republik Indonesia; 2019. Available from: http://kesmas.kemkes.go.id/assets/upload/dir_519d41d8cd98f00/files/Hasil-riskesdas-2018_1274.pdf
4. Drummond CE. Using nutrition education and cooking classes in primary schools to encourage healthy eating. 2010;4(December):43–54.
5. Seeley A, Caraher M, Wu M. Should we Teach Cooking in Schools? A Systematic Review of the Literature of School-based Cooking Interventions. J HEIA. 2010;17(1).
6. Nelson SA, Corbin MA, Nickols-Richardson SM. A call for culinary skills education in childhood obesity-prevention interventions: Current status and peer influences. J Acad Nutr Diet [Internet]. 2013;113(8):1031–6. Available from: http://dx.doi.org/10.1016/j.jand.2013.05.002
7. Hersch D, Perdue L, Ambroz T, Boucher JL. The impact of cooking classes on food-related preferences, attitudes, and behaviors of school-aged children: A systematic review of the evidence, 2003-2014. Prev Chronic Dis. 2014;11(11):1–10.
8. Story M, Lytle L a, Birnbaum AS, Perry CL. Feasibility and Process Evaluation of the TEENS Study. J Sch Health. 2002;72:121–7.
9. Raghunatha Rao D, Vijayapushpam T, Subba Rao GM, Antony GM, Sarma KVR. Dietary habits and effect of two different educational tools on nutrition knowledge of school going adolescent girls in Hyderabad, India. Eur J Clin Nutr. 2007;61(9):1081–5.
10. Saha S, Vemula SR, Mendu VVR, Gavaravarapu SRM. Knowledge and practices of using food label information among adolescents attending schools in Kolkata, India. J Nutr Educ Behav [Internet]. 2013;45(6):773–9. Available from: http://dx.doi.org/10.1016/j.jneb.2013.07.011