

# Knowledge, Attitude, and Practice of Parents Regarding Vitamin A Supplementation to Children in Benghazi, Libya

Lubna Jamal Abdulmalek<sup>1</sup>, Fatma Saleh Benkhaial<sup>1</sup>

<sup>1</sup>Department of Family and Community Medicine, Faculty of Medicine, University of Benghazi, Benghazi, Libya

## Abstract

**Background:** According to the World Health Organization, Vitamin A deficiency can cause immune system depression in about 130 million preschool children and 7 million pregnant women mostly in developing countries and cause mortality risk up to 20%–30%. **Objectives:** We aimed to evaluate the knowledge, attitude, and practice of parents in Benghazi regarding the Vitamin A campaign. **Subjects and Methods:** A cross-sectional descriptive study of 1390 parents attending maternal and child health clinics and pediatric clinics at six main polyclinics, in Benghazi in April and May 2018. **Results:** Most of the parents were younger than 40 years (71%). Mothers constitute 68% of the study population and 52% of the children were male. Half of the parents had higher education. Only 40% of the parents were having good knowledge about the benefits and food sources of Vitamin A. The coverage rate of Vitamin A supplementation among under-five children in the study was 66%. The main reason for not giving their children Vitamin A supplementation in this study was the lack of awareness of the campaign during the previous year. However, 88% of the interviewed parents had a positive attitude of regiving Vitamin A to their children in the next campaign. **Conclusions:** The overall knowledge level of Vitamin A among the parents was relatively low; hence, more efforts are needed to promote awareness about Vitamin A supplementation.

**Keywords:** Benghazi, campaign, parents, under five, Vitamin A

## INTRODUCTION

Vitamin A deficiency is one of the causes of immune system depression which affects about 130 million preschool children and 7 million pregnant women mostly in developing countries.<sup>[1]</sup> Vitamin A deficiency in under-five children can also cause mortality risk up to 20%–30%.<sup>[1]</sup> Xerophthalmia among preschool children amounts to about 5 million cases, 10% of which can potentially lead to blindness.<sup>[2,3]</sup> Even though there have already been significant improvements, Vitamin A deficiency is still the cause of at least 650,000 young children deaths annually, which are related to diarrhea, measles, malaria, and other infections.<sup>[4,5]</sup>

The World Health Organization recommends Vitamin A supplementation program to children aged from 6 to 59 months, as it is still the main choice in dealing with Vitamin A deficiency cases. However, there is still a need for other efforts in the future to achieve sustainable prevention; one of them is Vitamin A fortification in food sources. Education and nutritional knowledge are also important, especially for mothers, to improve the growth and development of children.<sup>[1]</sup>

In Libya, because of the war and the risk of nutritional problems which always accompanies wars, a free Vitamin A supplementation campaign was conducted for the first time, in the last week of March 2018 for children aged from 6 to 59 months. Therefore, the study aimed first to explore the knowledge and attitude of the parents regarding Vitamin A supplementation campaign, second, to assess the coverage rate of Vitamin A supplementation among under-five children in Benghazi, and third, to find the parents' rationale for not giving their children Vitamin A supplementation.

## SUBJECTS AND METHODS

This study was conducted between April 1 and May 31, 2018, in the maternal and child health (MCH) clinics and pediatric clinics

**Address for correspondence:** Prof. Lubna Jamal Abdulmalek, Department of Family and Community Medicine, Faculty of Medicine, University of Benghazi, Benghazi, Libya.  
E-mail: lubna.abdulmalek@uob.edu.ly

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

**For reprints contact:** reprints@medknow.com

**How to cite this article:** Abdulmalek LJ, Benkhaial FS. Knowledge, attitude, and practice of parents regarding Vitamin A supplementation to children in Benghazi, Libya. *Ibnosina J Med Biomed Sci* 2018;10:174-7.

### Access this article online

#### Quick Response Code:



**Website:**  
www.ijmbs.org

**DOI:**  
10.4103/ijmbs.ijmbs\_49\_18

at six main polyclinics, in Benghazi, Libya (El-Keish, Benghazi el-jadida, Ras-Ebaida, El sirti, Sidi-younis, and Shebna). All the parents of children aged from 6 to 59 months' old and who came to the MCH and pediatric clinic in the selected polyclinics in Benghazi during the study period and agreed to participate in the study were included in the study.

This was a cross-sectional descriptive study. Data were collected using a questionnaire and direct interview. The questionnaire included into four domains, namely demographic data, awareness of parents about the Vitamin A regarding its benefits and food sources, coverage status of the children and reasons of parents not giving the child Vitamin A, and their attitude toward the campaign. Statistical analysis was carried out using SPSS (IBM Corp. Released 2015. IBM SPSS Statistics for Windows, Version 23.0. Armonk, NY: IBM Corp.). Results are expressed as numbers, and percentages and Chi-square was used to explore significance of differences. The level of statistical significance is expressed using  $P < 0.01$  and  $P < 0.001$ .

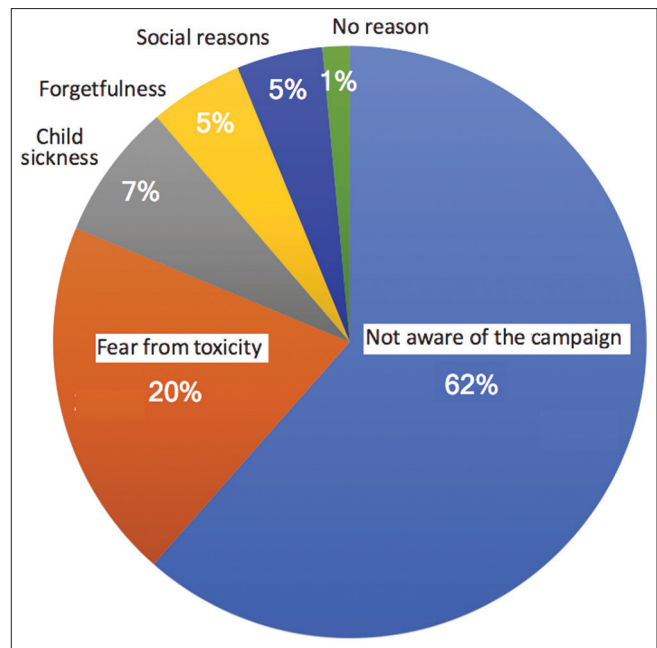
## RESULTS

A total of 1390 parents who consented to participate in the study have attended the MCH clinics and pediatrics clinics in the selected polyclinics in Benghazi during the study period [Table 1]. Most of the parents were <40 years of age (71%). Mothers constitute 68% of the study population and 52% of the children were male and half of the parents had higher education. About 556 respondents (40%) had a good knowledge about Vitamin A regarding its benefits and food sources, and the remainder (834; 60%) admitted ignorance.

About 66% of the children (920 children) received Vitamin A supplementation during the previous campaign. Four hundred and seventy children were not receiving Vitamin A supplementation during the last campaign, and the reason in 61% of them (289 children) was because the parents were not aware of the Vitamin A campaign [Figure 1]. The results of the present study revealed significant association between the age of the parents, parents' education, parents' knowledge of Vitamin A, marital status, and the child coverage status [Table 2]. There was good knowledge regarding Vitamin A among 556 parents (40% of the parents). The most common source of information was friends and relatives (42%) followed by mass media (22%) and Facebook (16%) [Figure 2]. 76% (1057) of the parents had positive attitude toward advising others to give their children Vitamin A supplementation. While 88% of the interviewed parents (1224 parents) had positive attitude of regiving Vitamin A to their children in the next campaign.

## DISCUSSION

Analysis of the demographic characteristics of the parents participated in this study showed that the mothers constituted the majority of the sample and this is similar to other studies.<sup>[6]</sup> Half of the parents had higher education; however, only 40% of the parents were having good knowledge about Vitamin A regarding its benefits and food sources. Health workers were the least



**Figure 1:** Reasons of parents for not giving their child Vitamin A supplementation during the previous campaign

source of information about Vitamin A among the parents. The coverage rate of Vitamin A supplementation among under-five children in the study was 66% which is lower than Pakistan<sup>[7]</sup> and Ghana<sup>[8]</sup> but higher than that reported in Nigeria.<sup>[9]</sup>

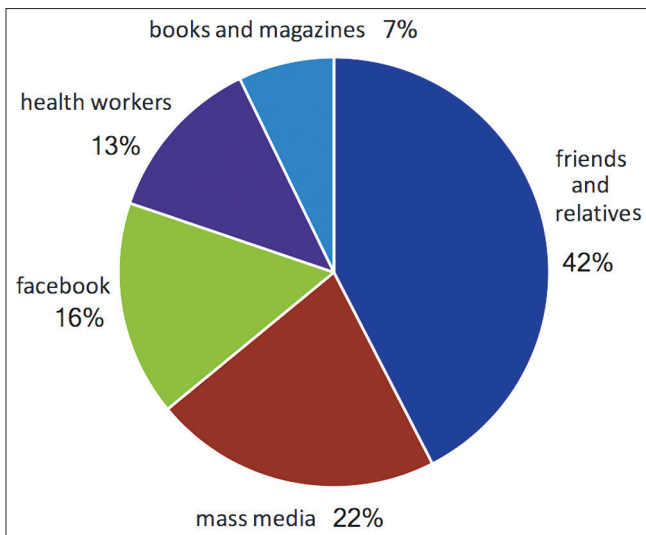
The main reason of parents for not giving the child Vitamin A supplementation in the present study was because of lack of awareness of the campaign followed by fear of vitamin toxicity and child sickness in contrast to other studies where the child sickness was the main reason.<sup>[10,11]</sup> The results of the present study revealed a significant association between the age of the parents, parents' education, parents' knowledge of Vitamin A, marital status, and the child coverage status, in agreement with other studies that explained that the older the parents, the more educated and aware of Vitamin A, and the more concern to give their children Vitamin A supplementation.<sup>[12-14]</sup> In contrast to the Nigerian study,<sup>[9]</sup> the gender of the child did not significantly affect the coverage status in the present study. The present study shows that the interviewed parents reveal high positive attitude toward regiving Vitamin A supplements to their children in the next campaign (88%), and in advising other parents to give their children Vitamin A supplements (76%). The limitation of the present study was conducted on the parents attending the main polyclinics in Benghazi. Therefore, the results may not be readily generalized to the parents in all the country under the current political environment.

## CONCLUSIONS

The overall knowledge level regarding Vitamin A supplementation campaigns and their benefits among the parents were relatively low, but almost two-third of the children received Vitamin A during the last campaign. The

**Table 1: Settings and demographic characteristics of parents and children**

Characteristics	n (%)
The polyclinic location	
El-Keish	520 (37)
Benghazi Eljadida	330 (24)
Ras - Ebaida	270 (19)
El-oroba (El-sirti)	120 (9)
Sidi-Younis	100 (7)
Shebna	50 (4)
Age of parent (years)	
<20	80 (6)
20-39	910 (65)
≥40	400 (29)
Gender of parent	
Male	450 (32)
Female	940 (68)
Present marital status	
Married	1330 (96)
Divorced	42 (3)
Widowed	18 (1)
Formal education of parent	
Primary	91 (6)
Secondary	609 (44)
University and higher	690 (50)
Employment of parent	
Employed	790 (57)
Not employed	600 (43)
Gender of the child	
Male	720 (52)
Female	670 (48)
Birth order	
Firstborn	538 (39)
Later children	852 (61)



**Figure 2:** Sources of parents' information about Vitamin A

parents revealed high positive attitude toward regiving Vitamin A supplements to their children in the next campaign, and

**Table 2: Association between giving child Vitamin A and certain sociodemographic characteristics**

Demographic determinants	Parents' practices of giving Vitamin A		Statistical analysis	
	During the previous campaign		$\chi^2$	P
	Yes (920)	No (470)		
Age of parent (years)				
<20	70	10	23.37	<0.001
20-39	610	300		
≥40	240	160		
Gender of a parent				
Male	300	150	0.0684	NS
Female	620	320		
Marital status				
Married	870	460	17.1	<0.01
Divorced	40	2		
Widowed	10	8		
Education of parent				
Primary	68	23	37.14	<0.001
Secondary	449	160		
University+	403	287		
Parents' knowledge				
Yes	498	58	226.36	<0.001
No	422	412		
Employment of parent				
Employed	493	297	11.6	<0.01
Not employed	427	173		
Gender of the child				
Male	473	247	0.162	NS
Female	447	223		
Birth order				
First child	386	152	12.12	<0.01
Second child or later	534	318		

NS: Not significant

in advising other parents to give their children Vitamin A supplements. More efforts are needed to promote awareness about Vitamin A supplementation campaigns through the media and population health education programs. More emphasis is recommended to ensure continuous Vitamin A supplementation programs to all under-five children in Libya.

**Acknowledgements**

The authors would like to express their appreciation and gratitude to all the parents who participated in the study and the intern doctors (A1 and C4 groups) who helped in the collection of data.

**Authors' contributions**

Both authors contributed to the conception, planning, and conduct of the study including data collection and analysis

and to drafting, revision, and approval of the manuscript in its final version.

### Financial support and sponsorship

Nil.

### Conflicts of interest

There are no conflicts of interest.

### Compliance with ethical principles

Approval for the study was granted by the Faculty of Medicine, University of Benghazi, Benghazi, Libya, and verbal informed consent was obtained from all participants before interview.

## REFERENCES

1. World Health Organization. World Health Organization Guideline: Vitamin A Supplementation in Infants and Children 6-59 Months of Age. Geneva: World Health Organization Press; 2011.
2. Dole K, Gilbert C, Deshpande M, Khandekar R. Prevalence and determinants of xerophthalmia in preschool children in urban slums, Pune, India – A preliminary assessment. *Ophthalmic Epidemiol* 2009;16:8-14.
3. Semba RD, de Pee S, Sun K, Campbell AA, Bloem MW, Raju VK, *et al.* Low intake of Vitamin A-rich foods among children, aged 12-35 months, in India: Association with malnutrition, anemia, and missed child survival interventions. *Nutrition* 2010;26:958-62.
4. Kassu A, Andualem B, Van Nhien N, Nakamori M, Nishikawa T, Yamamoto S, *et al.* Vitamin A deficiency in patients with diarrhea and HIV infection in Ethiopia. *Asia Pac J Clin Nutr* 2007;16 Suppl 1:323-8.
5. World Health Organization/UNICEF/IVACG Task Force. Vitamin A Supplements: A Guide to Their Use in the Treatment and Prevention of Vitamin a Deficiency and Xerophthalmia. Geneva: World Health Organization Press; 1997.
6. Semba RD, de Pee S, Sun K, Akhter N, Bloem MW, Raju VK, *et al.* Coverage of Vitamin A capsule programme in Bangladesh and risk factors associated with non-receipt of Vitamin A. *J Health Popul Nutr* 2010;28:143-8.
7. Bharmal FY, Omair A. Evaluation of Vitamin A supplementation in Gulshan-e-Sikandarabad. *J Pak Med Assoc* 2001;51:248-50.
8. David P. Evaluating the Vitamin A Supplementation Programme in Northern Ghana: Has it Contributed to Improved Child Survival. John Snow Institute Working Paper No. 16. Massachusetts: John Snow Institute; 2003. p. 56.
9. Adamu MD, Muhammad N. Assessment of Vitamin A supplementation coverage and associated barriers in Sokoto state, Nigeria. *Ann Niger Med* 2016;10:16-23.
10. Berger RA, Courtright P, Barrows J. Vitamin A capsule supplementation in Malawi villages: Missed opportunities and possible interventions. *Am J Public Health* 1995;85:718-9.
11. Clohossey PC, Katcher HI, Mogonchi GO, Nyagoha N, Isidro MC, Kikechi E, *et al.* Coverage of Vitamin A supplementation and deworming during Malezi bora in Kenya. *J Epidemiol Glob Health* 2014;4:169-76.
12. Sesay FF, Hodges MH, Kamara HI, Turay M, Wolfe A, Samba TT, *et al.* High coverage of Vitamin A supplementation and measles vaccination during an integrated maternal and child health week in Sierra Leone. *Int Health* 2015;7:26-31.
13. Choi Y, Bishai D, Hill K. Socioeconomic differentials in supplementation of Vitamin A: Evidence from the Philippines. *J Health Popul Nutr* 2005;23:156-64.
14. Demissie T, Ali A, Mekonen Y, Haider J, Umeta M. Magnitude and distribution of Vitamin A deficiency in Ethiopia. *Food Nutr Bull* 2010;31:234-41.

#### Reviewers:

Asma Deeb (Abu Dhabi, UAE)  
Meluda El Hamadi (Tripoli, Libya)  
Randa Alfirjani (Benghazi Libya)

#### Editors:

Salem A Beshyah (Abu Dhabi, UAE)  
Elhadi H Abu Rawi (Al Ain, UAE)