

Multivitamins Supplement Uses and Reason Uses by Mother's for Their Children Less than 24 Months Age Visiting King Abdulaziz Medical City

Fahad Aljarboa^{1,*}, Bader Aldebasi¹, Abdullah F Aljarboa², Tala S Almanea², and Mohammed Alkhalil¹

¹King Abdullah International Medical Research Center, Ministry of National Guard, King Saud bin-Abdulaziz University for Health Science, Ministry of National Guard - Health Affairs, Riyadh, Saudi Arabia.

²Al-Imam Muhammad Ibn Saud Islamic University, College of Medicine, Riyadh, Saudi Arabia.

Corresponding author: Fahad Aljarboa (e-mail: jarboaf@ngha.med.sa).

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Abstract Background: This study aimed to assess mothers' knowledge regarding multivitamin use for their children in primary health care settings. **Methods:** It is a cross-sectional survey targeting mothers visiting Primary Health Care. A questionnaire with 14 questions was distributed among two major primary care clinics. Sampling was convenient, and randomness was assumed by visit sequence, on a first-come, first-served basis, and those who agreed to participate. Mothers visiting the Pediatric and Well Baby Clinic within the PHC centers for immunization of their children (under 2 years old) may have been disproportionately selected by this sampling method. The data were entered and analyzed using SPSS with univariate analysis on each question and use of chi-square, exploring mothers' reasons and practices of vitamin use. **Results:** In our survey, most mothers (62.3%) believed that the best age of giving multivitamins to their children is in the 1st year of life. Twenty-five percent (25%) believed giving at 2 years old is best. Forty-five percent (45%) believed that multivitamins are good for both boys and girls, whereas 33.5% believed that only girls needed it, and 21% believed that only boys need multivitamins. Mothers who believed that children need multivitamins in the first year of life were 2.3 times more likely to give multivitamins to their children than mothers who believed that multivitamins are important after the first year of life. Mothers who believed that their children benefit most from multivitamins in the first year of life were 1.85 times more likely to give them multivitamins to help increase their weight and physical development. **Conclusion:** Mothers who know foods containing vitamins are 3 times more likely to give multivitamins to their children. In this study, there is no significant difference between the opinions of mothers giving and not giving multivitamins to increase appetite for physical development beyond the first year of life or prevent diseases or for children with chronic illnesses. Others knowledgeable about foods containing multivitamins were similar to mothers who had no knowledge of buying and preparing foods at home.

Key Words Multivitamins, Appetite, Knowledge

1. Introduction

Multivitamins are significant for life. It helps our body to grow, develop, and function normally [1]. Our body cannot produce multivitamins; we can obtain them from food intake. A well-balanced diet and healthy eating provide us with multivitamins. However, there are some situations, like pregnancy and childhood, which require more vitamins than usual, and then due to some ailments, our body cannot absorb or efficiently process the vitamins that we need [2]. Our body utilizes vitamins for healthy vision, growth and development, strong bones and connective tissues, healthy teeth, cognitive thinking, and other cerebral functions. It

helps to heal wounds, prevent bleeding, and protect the body by fighting infections, diseases, and cancer [3]. There are 2 categories of vitamins: water-soluble (Vit. B & C) and fat-soluble vitamins (A,D,E & K) [1]. When a person takes more water-soluble vitamins than needed, only a small amount is stored by the body, and the excess is excreted in urine [1]. Fat-soluble vitamins are absorbed in the intestine, and they aid in maintaining the structure of cell membranes. The liver is the chief storage tissue for vitamins A, D & E in body fat [1].

Our need of vitamins changes with our age from birth to old. At about 1 year old, nutritional habits change. From

infancy to toddlerhood, the child starts to be independent by developing self-feeding skills and mostly taking control of foods according to his/her preferences. These changes are accompanied by motor skills improvement, table behavior manners, appreciation and preferences in tastes of foods, and increased energy and nutrient requirements [4]. During this transition stage, caregivers play a vital role by preparing appropriate and healthy foods, proper settings at mealtime, and how to respond to a child's behavior. As the child starts to take foods according to their preferences, caregivers become concerned about the child's refusal of healthy foods, poor appetite, preferences for sweets, and tantrums during mealtime [4].

The pressure of modern living has reduced the time spent at home to prepare good and healthy food for the family. More people are eating out most of the time. This greatly impacts adults and growing children for not getting enough vitamins in their diet [3].

Pharmaceutically produced vitamins supplement deficiencies in the diet. Those who cannot eat enough food or receive the full benefit from food that they ate [2] are common candidates for these food supplements.

Vitamins come in different forms: capsules, tablets, powders, syrups, drops, chewables, gumballs, and dermal patches [5], [6].

Physicians prescribe vitamins and minerals for different reasons, but the effect in improving the child's health, especially eating habits, needs to be clarified [7], [8]. Others have discovered that supplements such as vitamins and minerals do not improve the child's ability to acquire knowledge and skills or gain high intelligence [9]. Considering the difficulty in controlling children's eating habits, especially preschoolers, eating erratically, vitamins and minerals are prescribed to increase their appetite and improve health [10].

American Academy of Pediatrics does not advise the use of vitamin and mineral supplements for the pediatric population [11].

The Recommended Dietary Allowances (RDA) [12], 1989 recommends that normal diets consist of healthy foods full of nutrients rather than supplements. However, in the US, about 10,000 cases of vitamin-mineral supplements overuse for those younger than 6 years old were reported in 1993 by Poison Control Centers [13]. Other professional organizations and The American Academy of Pediatrics emphasize healthy foods as the best source of nutrients for children [14], [15]. However, there were more than 30% of children in the US that take food supplements. A follow-up to the 1988 National Maternal and Infant Health survey was done in 1991; over half of all 3-year-olds used a VM supplement [16]. Another study reported a prevalence of VM supplement use of 43.1% among children 2-4 years old [17]. Since the 1930s, physicians have recommended the use of supplements for children whom they believe are at risk of deficiency [18], [19]. Among Health Care Professionals who enrolled in an online course on food supplements, it was found that female, older clinicians with higher knowledge and talks with

| VARIABLES | RESPONDENTS | YES | NO |
|--|-------------|-------|-------|
| Currently giving multi-vitamins | 406 | 42.9% | 57.1% |
| Know vitamin rich food | 468 | 64.7% | 35.3% |
| Buy and prepare vitamin rich food | 391 | 86.2% | 13.8% |
| Vitamins increase appetite | 389 | 76.9% | 23.1% |
| Vitamins help brain development | 401 | 61.3% | 38.7% |
| Vitamins help physical development | 473 | 67.7% | 32.3% |
| Vitamins prevent diseases | 470 | 77.7% | 22.3% |
| Vitamins in food are sufficient | 456 | 56.6% | 43.4% |
| Vitamins help in weight gain | 385 | 40% | 60% |
| Vitamins help to increase height | 402 | 42.8% | 57.2% |
| Vitamins are good for chronic diseases | 471 | 67% | 33% |

Table 1: Reasons for use of Multivitamins

patients about food supplements had higher use of this [20]. Patients less than 5 years old are potentially most vulnerable to irrational and inappropriate prescriptions of multivitamins and a relatively high rate of polypharmacy [21].

After a thorough literature review, only a few studies in the Gulf and Saudi Arabia explored mothers' use of multivitamins for their children were found. The objective of VMS use among Saudi Children aged 0-24 months in a PHC setting is to estimate the prevalence of multivitamin usage by mothers for their children, either self-prescribing or demanding from physicians in the primary care setting and the perception of mothers regarding the reasons behind the need for supplemental vitamins for their children. To determine if mothers at PHC need more counseling and education regarding healthy diet and using multivitamins for their children. To calculate the prevalence of multivitamin use among children 0-24 months of age. To determine mother's knowledge of the dietary needs of their children. To determine the mother's knowledge of the impact of multivitamins on the child's health.

2. Methodology

This study was a cross-sectional survey targeting the mother visiting the primary healthcare clinic. A questionnaire with 14 questions was distributed among two major primary care clinics from September to October 2018. Sampling was convenient, and randomness was assumed by visit sequence, on a "first come, first serve" basis, and those who agreed to participate. Mothers visiting the Pediatric and Well baby Clinic within the PHC centers for immunization of their children (under 2 years of age) may have been disproportionately selected by these sampling methods.

Study variables in the questionnaire include mothers' practices of giving vitamins to their children, including specific questions regarding growth, intellectual development, weight gain, and other perceptions about vitamins in the food. The data were entered and analyzed using SPSS with univariate analysis on each question and use of chi-square, exploring mothers' reasons and practices of vitamin use (Table 1).

3. Result

Most of the mothers in the sample (62.3%) believed that the best age for giving multivitamins to their children is the 1st year of life. Twenty-five percent believed giving at two years

of age is best. Forty-five percent of mothers believed that multivitamins are good for both girls and boys, and 33.5% believed that only girls need them. Around 21% thought that only boys needed multivitamins. Mothers who believed that children need multivitamins in the first year of life were 2.3 times more likely to give multivitamins to their children than the mothers who believed that multivitamins are important after the first year of life ($CI = 1.37 - 3.88$), $ChiSq. = 10.15$, $P. Value 0.001$). Mothers who believed that their children had benefited most from multivitamins in the first year of life were 1.85 times more likely to give multivitamins to their children to help increase their weight ($CI = 1.2 - 3.11$) ($ChiSq. = 4.89$, $P. Value 0.027$) and for physical development ($OR 3.59$, $CI = 1.93 - 6.67$) ($Chi Sq. = 17.87$, $P. Value 0.001$). Mothers who know foods containing vitamins are 3 times more likely to give multivitamins to their children ($CI 1.83 - 5.1$) ($Chi. Sq. = 19.37$, $P. Value 0.001$). Mothers who believe that multivitamins help with brain development are 1.7 times more likely to give multivitamins to their children ($CI 1.09 - 2.75$) ($Chi Sq. = 5.54$, $P. Value 0.019$).

Mothers who believe that multivitamins are not enough in food are 1.9 times more likely to give multivitamins to their children. ($CI 1.25 - 2.87$) ($Chi sq. = 9.24$, $P. Value 0.002$). Mothers who believed that multivitamins help their children gain weight were 3.75 times more likely to give them multivitamins. ($CI 2.38 - 5.59$) ($Chi Sq. = 33.88$, $P. Value 0.009$).

In our study, there is no significant difference between the opinions of mothers giving and not giving multivitamins to increase appetite or physical development beyond the first year of life, prevent diseases, or for children with chronic illnesses. In our study, mothers who were knowledgeable about foods containing multivitamins were similar to mothers who did not know about buying and preparing foods at home.

4. Discussion

Some children generally dislike food groups such as vegetables or dairy products. By giving multivitamin supplements, parents feel comfortable that it will close any nutritional gaps for crucial nutrients [20]. In the United States year 1990-2002, a study among infants, children & adolescents was done and showed that the number of children who received food supplements was 31.8%, infants (less than 1 year old) reported to be the lowest, 11.9% and adolescents (14 to 18 years of age) 25.7% and the highest used is among 4 to 8 years old, 48.5% [21].

Another study found that usage of multivitamins increased with the age of infants 6 to 11 months, 19% used multivitamins, and toddlers from 12 to 24 months is 31% [22].

Another study showed that the supplement used as per age group for a 2-year combination of vitamin A and D or Vitamin D only comprises 38% and fluoride 16%. Whereas 16% of the 3-year-olds also received vitamins A, C, E, and B [23]. In another study, more than half of the 3 years old in the US, 54.4% were given some vitamins and miner-

als [24] while in 1991, with longitudinal follow-up to the 1998 National Maternal and Infant Health Survey, of 8285 preschool children 46% received multivitamins and multi-mineral products with or without iron [25].

Our study found the opposite: the highest users of multivitamins are less than 1 year old, 62%, and 2 years old, 25%. Regarding gender differences in using multivitamins, we found 3 studies, 2 in the USA [26]–[28] and 1 in Taiwan [29] that go with our result that there is no difference in both boys and girls in using multivitamins. We found in one study that multivitamins were being used to prevent common colds, to enhance intellectual performances, improve a child's appetite, and improve growth [27], which goes with our study in the prevention of disease, 77.7%, increase appetite 76.9%, help in brain development 61.3% and physical development 67.7%.

In the literature, 3 studies [27]–[29] have similar results as ours that the mother or caregivers know about the importance of multivitamins the more they use them. The stresses of modern living, like mothers working away from home, buying foods from outside, and eating fast foods most of the time [30] pushed them to give their children multivitamins to compensate for the time scarcity of modern living.

5. Conclusion

There is no significant difference between opinion of mothers who were giving and not giving multivitamins to increase appetite or for physical development beyond the first year of life or to prevent diseases or for children with chronic illnesses. Mothers who are knowledgeable about foods containing multivitamins were no different from mothers who have no knowledge in buying and preparing foods at home.

Conflict of Interest

The authors declare no conflict of interests. All authors read and approved final version of the paper.

Authors Contribution

All authors contributed equally in this paper.

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