

ORIGINAL ARTICLE

Knowledge about breastfeeding of children 0-6 months among mothers attending hospital services in Kosovo

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Abstract

Aim: The aim of this study was to assess the level of knowledge and socio-demographic correlates of breastfeeding of children aged 0-6 months among mothers with young children in post-war Kosovo.

Methods: A cross-sectional study was conducted in Kosovo during the period December 2017 – February 2018 including a representative sample of 201 mothers (aged 29.4 ± 6.0 years) with young children attending hospital services. In addition to socio-demographic data, a structured 13-item questionnaire inquiring about breastfeeding of children aged 0-6 months was administered to all women. A summary score was calculated for all 13 items related to women's knowledge on breastfeeding (0 denoting incorrect answers to all 13 items, and 13 denoting correct answers to all 13 questions). General linear model was used to assess the association between summary score of the knowledge about breastfeeding and socio-demographic characteristics of the women.

Results: Mean summary score of the 13 items related to knowledge about breastfeeding was 10.3 ± 1.9 ; median score was 11 (interquartile range: 9-12). In multivariable-adjusted models, the mean summary score of knowledge about breastfeeding of children 0-6 months was slightly but non-significantly higher among "older" women, those residing in urban areas, highly educated women, those currently employed, and women with a higher income level.

Conclusion: Generally, the level of knowledge about breastfeeding of children aged 0-6 months was satisfactory among mothers with young children included in this survey in Kosovo. Furthermore, there were seemingly no significant socio-demographic differences in the level of knowledge about breastfeeding of young infants among women in this study carried out in Kosovo.

Keywords: breastfeeding, children 0-6 months, knowledge, mothers, Kosovo, women.

Introduction

Breastfeeding of newborns is very important and it significantly decreases the risk of neonatal complications (1), respiratory diseases and other diseases of young infants, as convincingly demonstrated in the vast international scientific literature (2-5).

Based on the considerable empirical evidence about the benefits of breastfeeding to both the mother and the baby, the World Health Organization (WHO) has recommended a two-year breastfeeding approach (6). More specifically, WHO has recommended exclusive breastfeeding for the first six months of life, with more than eight times breastfeeding of the baby per day in the first three months of a newborn's life (6). However, a wide range of factors may influence the breastfeeding rates in different countries including maternal characteristics (7,8) and socioeconomic status of the families (9), different health issues and problems of the newborns (10), several psychosocial factors involved (11), as well as different ethnic and cultural norms pertinent to various countries and populations worldwide (8,12).

After the war and the liberation from the Serbian regime in 1999 and almost a decade under United Nations administration, Kosovo underwent an intensive process of transformation to an independent state, which was formally proclaimed in 2008. Hence, Kosovo is the newest country in Europe with the youngest population of the continent (mean age of the Kosovo population has been reported at about 27 years) (13). In Kosovo, infant mortality rate is one of the highest in the WHO European region (17.1 deaths per 1000 live births in the year 2011) (13). Similarly, maternal mortality rate is also high (7.2 deaths per 100.000 in 2011) (13). The available evidence, albeit not well-documented, suggests a relatively higher breastfeeding rate in Kosovo compared with the other European countries. However, to date, the evidence about the level of knowledge, attitudes and practices related to breastfeeding of Kosovo mothers with infants and young children is scarce.

In this context, the aim of this study was to assess the level of knowledge and socio-demographic correlates of breastfeeding of children aged 0-6 months among mothers with young children in Kosovo.

Methods

A cross-sectional study was conducted in Kosovo during the period December 2017 – February 2018.

The study was carried out in four regions of the Republic of Kosovo including Peja, Gjakova, Prizren and Prishtina.

A representative sample of 201 mothers with young children attending hospital services was included in this survey (overall, 92 women from rural areas and 109 women from urban areas).

A structured 13-item questionnaire inquiring about breastfeeding of children aged 0-6 months was administered to all women (all 13 questions are presented in Table 2).

In the analysis, answers to each of the 13 items were dichotomized into: correct vs. incorrect. A summary score was calculated for all 13 items of the questionnaire (0 denoting incorrect answers to all 13 items, and 13 denoting correct answers to all 13 questions).

In addition, data on demographic factors (age and place of residence) and socioeconomic characteristics (educational level, employment status, and self-perceived income) were collected for all study participants.

The study was approved from the Board of the National Institute of Public Health of the Republic of Kosovo.

Fisher's exact test was used to compare differences in socio-demographic characteristics (age, education, employment and income) between women residing in urban areas and their counterparts pertinent to rural areas. Furthermore, Fisher's exact test was employed to

compare differences for each of the 13 items related to mothers' knowledge about breastfeeding of children aged 0-6 months between urban and rural residents. On the other hand, general linear model was used to assess the association between summary score of the knowledge (13 items) about breastfeeding and socio-demographic characteristics of the women. Initially, crude (unadjusted) mean values, their respective 95% confidence intervals (95% CIs) and p-values were calculated. Subsequently, multivariable-adjusted models were run adjusting simultaneously for all socio-demographic factors of the women (age-group, place of residence, educational attainment, employment status and income level). Multivariable-adjusted mean values, their respective 95% CIs and p-values were calculated. In all cases, a p-value ≤ 0.05 was considered as statistically significant. Statistical Package for Social Sciences (SPSS< version 19.0) was used for all the statistical analyses.

Results

Mean age (\pm SD) of women included in this study was 29.4 \pm 6.0 years; median age was 28 years (interquartile range: 25-33 years); the age range was: 17-48 years (data not shown in the tables).

The distribution of demographic and socioeconomic characteristics of study participants by their place of residence is presented in Table 1. Overall, 40% of women were 30 years or older. Compared to their rural counterparts, women residing in urban areas had a higher educational level (45% in urban areas vs. 24% in rural areas; $P < 0.01$), a higher employment rate (48% in urban areas vs. 20% in rural areas; $P < 0.01$) and a higher income level (a low income was reported only among 4% of urban women compared to 15% of women residing in rural areas; $P = 0.02$). Mean age was similar among women residing in urban areas and those pertinent to rural areas (29.7 years vs. 29.1 years, respectively; data not shown).

Table 1. Demographic and socioeconomic characteristics in a sample of mothers with young children attending hospital services in Kosovo, in 2017-2018

Demographic and socioeconomic characteristics	Total (N=201)	Rural (N=92)	Urban (N=109)	P-value [†]
Age-group:				
<30 years	120 (59.7) [*]	56 (60.9)	64 (58.7)	0.775
≥ 30 years	81 (40.3)	36 (39.1)	45 (41.3)	
Educational level:				
Low	46 (22.9)	31 (33.7)	15 (13.8)	0.001
Middle	84 (41.8)	39 (42.4)	45 (41.3)	
High	71 (35.3)	22 (23.9)	49 (45.0)	
Employment status:				
Employed	70 (34.8)	18 (19.6)	52 (47.7)	<0.001
Unemployed	131 (65.2)	74 (80.4)	57 (52.3)	
Income level:				
Low	18 (9.0)	14 (15.2)	4 (3.7)	0.015
Middle	177 (88.1)	76 (82.6)	101 (92.7)	
High	6 (3.0)	2 (2.2)	4 (3.7)	

* Numbers and column percentages (in parenthesis).

[†] P-values from Fisher's exact test.

The correct knowledge about a wide array of breastfeeding aspects of children 0-6 months among women residing in urban and rural areas is presented in Table 2. For most of the items there were no significant differences by place of residence of study participants. Overall,

almost all women (99%) knew correctly that breast milk is the best type of milk for feeding children aged 0-6 months. About 85% of the women correctly reported that newborns should be breastfed immediately after birth, and 77% of the women stated that newborns should be breastfed as frequently as needed. Furthermore, about 63% of the women correctly stated that colostrum is very useful for the newborn. About three-quarters of the women correctly identified the duration of a normal breastfeeding session. The vast majority of the women (93%) correctly reported that breastfeeding improves the immune system of the newborn; 89% of the mothers stated that breastfeeding improves the mother-child emotional bond; and 88% of the women correctly knew that a newborn is properly fed when he/she attaches well the nipples and grasps a large portion of breast's aureole.

Conversely, only 40% of the women correctly knew that breastfeeding reduces mother's weight gained during pregnancy (47% of urban women vs. only 33% of rural women; $P=0.05$). A higher proportion of urban residents correctly knew that breastfeeding reduces the neonatal jaundice (76% vs. 60% among rural residents; $P=0.02$). Similarly, a higher proportion of urban residents correctly knew that newborns who gain weight, have wet dippers and sleep well have received sufficient breast milk (95% vs. 87% among rural residents; $P=0.04$).

On the other hand, there were no differences regarding the correct knowledge about bottle-feeding (overall, 78% of the women correctly reported that bottle-feeding should not be used for breastfed children 0-6 months), or complementary feeding (overall, 86% of the women correctly reported that, besides breastfeeding, children should start the complementary feeding six months after birth) [Table 2].

Table 2. Knowledge about breastfeeding of children aged 0-6 months in a sample of mothers with young children attending hospital services in Kosovo

Knowledge about breastfeeding of children 0-6 months	Total (N=201)	Rural (N=92)	Urban (N=109)	P-value [‡]
1. Which type of milk is the best for your child?				
<i>Breast milk*</i>	199 (99.0) [†]	90 (97.8)	109 (100.0)	0.208
Other (formula, etc.)	2 (1.0)	2 (2.2)	0 (-)	
2. When should the newborn be breastfed?				
<i>Immediately after birth*</i>	170 (84.6)	78 (84.8)	92 (84.4)	0.999
At least 4 hours after birth	31 (15.4)	14 (15.2)	17 (15.6)	
3. Is colostrum useful for the newborn?				
<i>Very useful*</i>	127 (63.2)	57 (62.0)	70 (64.2)	0.770
Little or no useful at all	74 (36.8)	35 (38.0)	39 (35.8)	
4. How many times should the newborn be breastfed?				
<i>Every time he/she needs*</i>	155 (77.1)	74 (80.4)	81 (74.3)	0.318
Each 4 hours or longer	46 (22.9)	18 (19.6)	28 (25.7)	
5. How long does a breastfeeding session last?				
<i>10-15 minutes*</i>	149 (74.1)	68 (73.9)	81 (74.3)	0.999
Other	52 (25.9)	24 (26.1)	28 (25.7)	
6. Does breastfeeding improves the immune system of the newborn?				
<i>Yes*</i>	187 (93.0)	85 (92.4)	102 (93.6)	0.786
Little or not at all	14 (7.0)	7 (7.6)	7 (6.4)	
7. Does breastfeeding influence the				0.111

mother-and-child emotional bond?				
Yes*	179 (89.1)	78 (84.4)	101 (92.7)	
Little or not at all	22 (10.9)	14 (15.2)	8 (7.3)	
8. Does breastfeeding reduce the neonatal jaundice?				
Yes*	138 (68.7)	55 (59.8)	83 (76.1)	0.015
No	63 (31.3)	37 (40.2)	26 (23.9)	
9. Does breastfeeding reduce mother's weight gained during pregnancy?				
Yes*	81 (40.3)	30 (32.6)	51 (46.8)	0.045
Little or not at all	120 (59.7)	62 (67.4)	58 (53.2)	
10. If the newborn attaches well the nipples and grasps a large portion of breast's aureole, then:				
The newborn will be properly fed*	176 (87.6)	79 (85.9)	97 (89.0)	0.527
The newborn should be repositioned or will not be properly fed	25 (12.4)	13 (14.1)	12 (11.0)	
11. If the newborn gains weight, has wet dippers and sleeps well, then:				
He/she takes sufficient breast milk*	184 (91.5)	80 (87.0)	104 (95.4)	0.041
He/she does not take sufficient breast milk, or is ill	17 (8.5)	12 (13.0)	5 (4.6)	
12. Should bottle-feeding be used for breastfed children 0-6 months?				
No*	156 (77.6)	75 (81.5)	81 (74.3)	0.239
Yes	45 (22.4)	17 (18.5)	28 (25.7)	
13. Besides breastfeeding, when should the newborn start the complementary feeding?				
6 months after birth*	172 (85.6)	78 (84.8)	94 (86.2)	0.841
Other	29 (14.4)	14 (15.2)	15 (13.8)	

* Correct answer.

† Numbers and column percentages (in parenthesis).

‡ P-values from Fisher's exact test.

A summary score was calculated for all 13 items displayed in Table 2 regarding the correct level of knowledge of women about breastfeeding of children aged 0-6 months (a summary score of 0 denoting incorrect answers to all 13 items, and a summary score of 13 denoting correct answers to all 13 questions).

Mean summary score of the 13 knowledge items was 10.3 ± 1.9 ; median score was 11 (interquartile range: 9-12); the range of the scores was: 1 (only one correct answer) to 13 (all 13 correct answers) [data not shown in the tables].

Table 3 presents the association of summary score of knowledge about breastfeeding and demographic and socioeconomic characteristics of the women.

In crude (unadjusted) general linear models, the mean summary score of the 13 knowledge items was (non-significantly) higher among older women, those residing in urban areas, highly educated women and those currently employed. Women with a higher income level had a significantly higher mean summary score of the knowledge items compared with low-income women (11.0 vs. 9.3, respectively, $P=0.05$).

In multivariable-adjusted models, there was evidence of the same findings compared with the unadjusted estimates. Hence, mean summary score of knowledge about breastfeeding of children 0-6 months was (non-significantly) higher among older women, those residing in urban areas, highly educated women, those currently employed and women with a higher income level.

Table 3. Association of the summary score of knowledge about breastfeeding and demographic and socioeconomic characteristics of the women; mean values from the General Linear Model

Socio-demographic characteristics	Unadjusted models			Multivariable-adjusted models		
	Mean*	95%CI	P	Mean*	95%CI	P
Age-group:						
<30 years	10.2	9.8-10.5	0.272	10.1	9.5-10.8	0.298
≥30 years	10.5	10.1-10.9		10.4	9.7-11.1	
Place of residence:						
Rural areas	10.1	9.7-10.5	0.105	10.1	9.5-10.8	0.363
Urban areas	10.5	10.2-10.9		10.4	9.7-11.1	
Educational level:						
			0.344 (2)[†]			0.596 (2)
Low	9.9	9.4-10.5	0.242	10.1	9.3-10.9	0.867
Middle	10.3	9.9-10.8	0.815	10.3	9.5-11.3	0.444
High	10.5	10.1-11.2	reference	10.5	9.7-11.6	reference
Employment status:						
Unemployed	10.1	9.8-10.5	0.186	10.2	9.4-10.8	0.648
Employed	10.6	10.2-11.3		10.4	9.6-11.1	
Income level:						
			0.04 (2)			0.120 (2)
Low	9.3	8.4-9.8	0.045	9.4	8.5-10.4	0.098
Middle	10.4	10.1-10.7	0.441	10.4	10.1-10.7	0.447
High	11.0	9.9-12.5	reference	11.0	9.4-12.6	reference

* Range of the summary score from 0 (all 13 incorrect answers) to 13 (all 13 correct answers).

[†] Overall p-values and degrees of freedom (in parentheses).

There was evidence of a weak and non-significant linear association between the summary score of knowledge about breastfeeding and age of the women (Spearman's rho=0.11, P=0.14), but a borderline statistically significant correlation with the number of births (Spearman's rho=0.13, P=0.06) [data not shown].

Discussion

The main finding of this study consists of a quite satisfactory level of knowledge about breastfeeding of children aged 0-6 months among mothers attending hospital services in Kosovo. In addition to the general level of knowledge, on the face of it, there were no significant demographic or socio-economic differences in the level of knowledge about breastfeeding of young infants among women in Kosovo. Indeed, in multivariable-adjusted general linear models (controlling simultaneously for key socio-demographic factors) there was no evidence of any statistically significant differences in the level of knowledge about breastfeeding of children aged 0-6 months among various categories and subgroups of women differentiated in terms of age-group, place of residence, educational attainment, employment status, or income level. Such findings are quite appealing, but they should be interpreted with extreme caution due to the small sample size included in the current study. Hence, findings from this report deserve further rigorous investigation and replication in more robust and larger studies.

To the best of our knowledge, there are no previous similar studies conducted in Kosovo in order to compare our findings. On the other hand, a previous cross-sectional study conducted in Kosovo in 2013 has assessed women's knowledge and practices of complementary feeding from 28 cities, towns and villages across Kosovo, including a sample of 492 mothers with infants aged 6-24 months (14). According to this report, about 88% of the women included in the study reported good knowledge of complementary feeding, whereas only about 38% of them employed good practices regarding time for starting complementary feeding (14). In addition, an association between maternal knowledge about complementary feeding and educational level was reported from this study (14).

The current study conducted in Kosovo revealed that the majority of the women included in the survey had good knowledge about breastfeeding of children aged 0-6 months. Similar to the evidence obtained in previous studies conducted elsewhere, most of the mothers included in this study in Kosovo correctly reported that breastfeeding promotes mother-baby emotional bonding (8,15,16), and the fact that breastfeeding in the early period can help reduce jaundice (8,17,18).

Nonetheless, there are several imitations of the current study including the size and representativeness of the study population involved, the possibility of information bias and the study design. The sample size included in this study (N=201) was not large, an issue which might have jeopardized the power of the study for detecting small differences in the level of knowledge about breastfeeding among women pertinent to different socio-demographic categories. More importantly, although the sample was meant to be representative to Kosovo women with young children, the hospital-based selection approach does not allow generalization of the survey findings to all women in Kosovo. At best, findings from the current analysis may be generalized only to women who attend hospital services in this transitional country. The instrument for data collection was based on a simple and standardized tool which has been largely employed in similar studies in many countries worldwide (8). Yet, regardless of the lack of any evidence obtained, the possibility of differential reporting between groups of women pertinent to different socio-demographic categories cannot be completely excluded. Finally, as this was a cross-sectional study, findings should be interpreted with caution and replicated and confirmed in future larger prospective studies.

Regardless of these potential limitations, this study provides useful evidence about the level of knowledge and socio-demographic correlates of breastfeeding of children aged 0-6 months among mothers with young children in Kosovo. Findings of this study should inform policy and shape future interventions and programs aiming at improving mother and child health status and health care services in Kosovo.

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