Assessment the Relationship between Parents' Literacy Level with Children Growth in Mashhad: An Analytic Descriptive Study

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Abstract

Introduction:
Present children are the investments of community in the future. Preparing children health which leads to the stability of community health, provided to accurate implementation of educational and health programs in the community and especially in mothers. So it is necessary to determine the relationship between parents' literacy with growth rate in children.

Materials and Methods:
This cross-sectional descriptive-analytic study was conducted on 300 mothers referring to 10 selected Mashhad health-care centers for monitoring their 6-24-month year old infants. They completed questionnaire. Participants were selected by cluster and simple random sampling. Data were analyzed by descriptive- analytic statistics and using SPSS 16.

Results:
Present findings showed a significant relationship between literacy level of parents with child growth status, breast feeding rate, junk food consumption, referring to health care center for growth monitoring, the age of initiating supplementary nutrition, the use of oil and butter in baby food and rate of attending in educational classes. So that higher literacy level of parents was associated with using more formula, less junk food, oil and butter in baby's food and more referring times to health care center for monitoring child growth, desirable growth, and also initiating supplementary food more at the assigned time (P<0.05).

Conclusion:
Parents' literacy level influence on children growth status. However, with increasing parents' literacy level, using formula for infants has been increased, but breast milk feeding is also high in this group.

Keywords:
Children, Growth, Literacy, Mashhad, Parents.

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Introduction

Present children are the investments of community in the future. The present physical and psychotic health prepares them for managing future society. Accurate nutrition in the 2 first years of life will be the most important factor in preparing health, growth and development of children in the future. In the third world countries, mortality of children under 5 years includes significant rate of total mortality. The most important factor of mortality in these groups include: respiratory infections, diarrhea diseases and malnutrition (1-2).

Children who had improper nutrition, would be more ill and their disease would be longer. Growth rate in primary years of life and lack of necessary knowledge about proper nutrition of child are influencing factors in malnutrition incidence in children under 5 year. Children who had improper and insufficient diet in the first years of life, had lower IQ and were unable to do their homework in school (1,2).

Assessments showed that Iranian children have appropriate birth weight, but they lose their weight slowly between 4-6 months of life. This is probably due to child's need to supplementary food, inappropriate pattern of supplementary nutrition and inaccurate habits of nutrition. Weight loss continues till 18 months of life due to insufficient health care and lack of necessary knowledge, after that although increasing weight parallels to reference percentile, growth curve always passes in lower level than middle curve (3). In this regard, physicians and health care givers and more importantly mothers should have deep and sufficient understanding and knowledge about different stages of children growth and development and their influencing factors. So this study aimed to assess the relationship between parents' literacy level with growth status of children.

Materials and Methods

This cross-sectional descriptive-analytic study was conducted on mothers referring to Mashhad health-care centers for monitoring their 6-24-month year old infants. Sample size calculated 300 mothers. Participants were selected by cluster and simple random among 10 selected health-care centers. 30 mothers entered the study randomly in each health care center. The researchers referred to the research settings and after coordination with the center's manager, introduced the research for the participants and obtained informed consents. Then they obtained required data by completing research tools. Research tool was a reliable and valid questionnaire which was confirmed by content validity and internal consistency Cranbach's alpha (α=0.86) reliability.

The questionnaire consists of 2 parts: personal characteristics and demographic information, and questions relating to knowledge assessment about influencing factors on child growth. After gathering data, they were coded and analyzed by descriptive and analytic (Analysis of variance (ANOVA), t-test, chi-square) statistics and confidence interval 95% by SPSS-16. $P<0.05$ was considered significant.

Results

300 mothers who were qualified the inclusion criteria were assessed. 49% of mothers had boys and 51% had girls Table1 Shows frequency of participants' demographic variables. Mothers who had academic educations, referred more times to health care center to receive prenatal care, had more desirable weight gain in pregnancy and attended more in educational classes than the others (P=0.000).

Formula consumption was more in mothers with academic education and breast milk feeding was more in mothers with junior high school (P=0.000) (Table 2).

Findings showed that rate of junk food consumption was more in mothers with primary education than the others (P=0.000).

Table 1: Frequency of Demographic Variables in participating mothers.

Variables	Frequency	Percent
Child growth status		
Desirable	260	86.7
Growth retardation	31	10.3
Horizontal	9	3
Mother's literacy		
Primary	46	15.3
Junior high school	49	16.3
High school	150	50
Academic	55	18.3
Father's literacy		
Primary	40	13.3
Junior high school	62	20.7
High school	146	48.7
Academic	52	17.3
Family income		
Low	41	13.7
Moderate	248	82.7
good	11	3.7
Very good		4
Baby's birth ranking		
first	157	52.3
second	121	40.3
third	19	6.3
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Table 2: Frequency of children's nutrition types according to mothers' literacy level.

Pattern of nutrition Literacy	Breast Milk (BM)	Formula	BM + Caw milk	BM + Formula	Total
Primary	33 (71.7)	4 (8.7)	4 (8.7)	4 (10.9)	46 (100)
Junior high school	43 (87.8)	0 (0)	6 (12.2)	0 (0)	49 (100)
Diploma	115 (76.7)	2 (1.3)	19 (12.7)	14 (9.3)	150 (100)
Academic	41 (74.5)	10 (18.2)	4 (7.3)	0 (0)	55 (100)
Total	232 (77.3)	16 (5.3)	33 (11)	19 (6.3)	300 (100)

Using iron and multi-vitamin drops for children was more in diploma mothers than the others, and less in mothers with primary education than the others (P=0.000).Rate of drug application during pregnancy was more in mothers with primary education than the others (P<0.05), and also in mothers whom their spouses had primary education (P=0.002). Adding oil and butter to children food was more in mothers with primary education than the others (P<0.05), and also in mothers whom their spouses had academic education (P=0.000). Findings showed that rate of referring to health care centers for monitoring children growth was more in mothers whom their spouses had primary education, than the others (P<0.001) (Table 3).

Low birth weight (LBW)[1] rate was more in children whom their fathers had primary education (P=0.004).

Table 3: Frequency of mothers referring to health care centers for child growth monitoring according to mothers' literacy level.

Referring Literacy	Yes	No	Sometimes	Total
Primary	35 (76.1)	0 (0.0)	11 (23.9)	46 (100)
Junior high school	37 (75.5)	5 (10.2)	7 (14.3)	49 (100)
Diploma	138 (92.0)	2 (1.3)	10 (6.7)	150 (100)
Academic	51 (92.7)	4 (7.3)	0 (0.0)	55 (100)
Total	261 (87)	11 (3.7)	28 (9.3)	300 (100)

Discussion

In the present study, 65% of mothers had knowledge about suitable age of initiating supplementary nutrition. Since brain growth after fetal period occurs most in the first year of life, the importance of appropriate and accurate nutrition in children's growth, mental and physical health, learning and their efficacy is undeniable. So it is necessary to consider more importance to nutrition and nutrient types which are available for children in order to preparing children security and health (1,2,4).

Our findings showed that 80.7 % of mothers had been used iron and multi-vitamin drops for their children, which is nearly consistent with Nik Niaz findings (5). Previous studies have shown that lack of supplementary drops esp. iron leads to reduction of IQ and learning ability, physical growth disorder and finally decreasing mental and physical abilities, in addition to iron deficiency anemia (1,2).

Imani's findings showed no significant relationship between age of initiating

supplementary nutrition with child ranking and mother literacy (6), which is inconsistent with the present study's findings.

The present study's findings showed a significant relationship between parents' literacy level and place of residence and births' interval with children growth status. This finding is in accordance with Halakouyi's findings (7).

The present study's findings are consistent with Soheili azad's findings (8) about births' interval and duration of breast milk feeding, and also in accordance with Alavi Naieni (9), Karimi, Teimouri, Kabiri findings (10-12).

Our study findings were consistence with Keighobadi findings (13) in relation to a significant relationship between mother's literacy levels with education of nutrition to mothers.

Our findings showed no significant relationship between birth weight, age of initiating supplementary nutrition and child gender with children growth status, which is inconsistent with Alavi Naeini's findings about child gender and family income (9) and Keighobadi's findings about birth weight (13), and Teimouri's findings about adding oil to child's food (11), and Kabiri's study about child gender and economic status (12).

The present study showed that 34.3% of mothers attended in educational programs of health care centers regularly, which is inconsistent with Barzegar's findings who reported just 2.3% of families attended in these programs (14). These differences may be due to the presentation of new and various information by a modern educational method in health care centers of Mashhad, and more interest of mothers to these programs.

Conclusion

Parents' literacy level influence on children growth status. However, with

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[1]LBW: <2500 g

increasing parents' literacy level, using formula for infants has been increased, but breast milk feeding is also high in this group. In addition, since educational classes in pregnancy, weight gain in this period, supplement drugs for children may be influencing factors on child growth, desirable growth of children in parents with academic education can be justified.

Acknowledgment

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