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Abstract

Children's health is considered as an investment and wealth in society. (Engle et al., 2011) Interventions during first 5 years is golden period because of gains in physical and psychological development, is considered as one of the effective factors in the disease prevention and health promotion. (Campbell et al., 2014). According to the World Health Organization, all parents need information on healthy child development. In addition, mothers' knowledge is one of the important aspects of child nurturing. This perspective study conducted on mother's knowledge regarding child millstone development at Daratoo Medical Health care center in Erbil city of Kurdistan region of Iraq. Data were collected during September 12, 2019–March 12, 2020. A convenient random sampling was used to choose 100 Mothers who visited at Daratoo Medical Health care center for Medical seeking. Regarding inclusion and exclusion criteria; inclusion criteria were mothers who have children (social, language, gross, and fine motor). This study concluded that mother's level of education, types of family, and mother occupation has a vital role regarding mother's knowledge toward child millstone development. That mean the older aged other with high level of education and high parity have a good knowledge about children development.

Keywords

Child development, Social development, Parity, Level of educationdevelopment

RESEARCH ARTICLE

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ABSTRACT

Children's health is considered as an investment and wealth in society. (Engle et al., 2011) Interventions during first 5 years is golden period because of gains in physical and psychological development, is considered as one of the effective factors in the disease prevention and health promotion. (Campbell et al., 2014). According to the World Health Organization, all parents need information on healthy child development. In addition, mothers' knowledge is one of the important aspects of child nurturing. This perspective study conducted on mother's knowledge regarding child millstone development at Daratoo Medical Health care center in Erbil city of Kurdistan region of Iraq. Data were collected during September 12, 2019–March 12, 2020. A convenient random sampling was used to choose 100 Mothers who visited at Daratoo Medical Health care center for Medical seeking. Regarding inclusion and exclusion criteria; inclusion criteria were mothers who have children < 15 years old visited health center and who did consent informed. This research studied that most of Kurdish mothers had poor knowledge regarding child millstone development including all domains (social, language, gross, and fine motor). This study concluded that mother's level of education, types of family, and mother occupation has a vital role regarding mother's knowledge toward child millstone development. That mean the older aged other with high level of education and high parity have a good knowledge about children development.

Keywords: Child development; Social development; Parity; Level of education

INTRODUCTION

Children's health is considered as an investment and wealth in society. (Engle et al., 2011) Interventions during first 5 years are golden period because of gains in physical and psychological development, are considered as one of the effective factors in the disease prevention and health promotion (Campbell et al., 2014). According to the World Health Organization, all parents need information on healthy child development. In addition, mothers' knowledge is one of the important aspects of child nurturing. The mindfulness and awareness of parents to understand norms, milestones, caregiving skills, and processes of child development as well as familiarity with child-care skills can be effective successful in the parents–child interaction. Being the primary care givers, mothers should possess adequate knowledge regarding milestone development of infant through educational means and can apply it in practice.

Developmental milestones achieved by children across multiple domains in the early years of life. It reviews each domain (cognitive development, fine and gross motor development, social–emotional development, and language

development). Mother knowledge and child development interaction involve above several domains of development. Mother's developmental milestones, for instance, neck control sitting without support, crawling, standing, and walking are generally understood to be vital stages of neurological development (Ujwala et al., 2020). Growth monitoring and promotion are vital aspect of child care. Researchers have recognized that those parents who have knowledge about the child's development is positively reported to their competence to conceive homes with learning conditions and to cooperate with their children in manners that accelerate positive development. A huge of literature on mother's judgment on Milestone development have stated that there is still a huge percentage of mothers who remain uninformed about the developmental milestone and its possible fatal consequences (Alkhazrajy and Aldeen, 2017).

Similarly in the World Health Organization (WHO) Multicenter Growth Reference Study that was conducted in different countries, Ghana, India, Norway, Oman, and the United States, insignificant differences were found in attainment of key motor milestones (WHO, 2014). Despite uniformity in children's attainment of culturally

independent developmental milestones, caregivers' knowledge of when children should acquire developmental skills appears to differ between cultures (Iqbal, 2012). In Kurdistan region, child development millstone is new concept need development this kind of study will add the room of literature about child development millstone among Kurdish child and Kurdish mother knowledge about child development domain according to the Nelson development chart (Marcdante and Kliegman, 2014).

Objectives of the Study

The objectives are as follows:

1. To assess socio-demographic characteristics of participated mothers.
2. To detect mother's knowledge regarding four domains of child millstone development including (Personal/social Millstone development, Language development, gross motor development, and fine motor development).
3. To find out the association of mother's knowledge regarding millstone development and mother's socio-demographical characteristics.

SUBJECTS AND METHOD

This perspective study conducted on mothers knowledge regarding child millstone development at Daratoo Medical Health care center in Erbil city of Kurdistan region of Iraq. Data were collected during September 12, 2019–March 12, 2020. A convenient random sampling was used to choose 100 mothers who visited at Daratoo Medical Health care center for medical seeking. Regarding inclusion and exclusion criteria; inclusion criteria were mothers who have children <15 years old visited health center and who did consent informed, whereas the exclusion criteria were mothers unable to communicate Kurdish language, and those mothers who don't want to attend the study.

The study was approved by the Scientific and Ethical Committee at Research Medical Centre, Hawler Medical University. Before data collection, official permissions were obtained which involved Daratoo Medical Health care center, Directorate of General Health Erbil city. And informed consent was obtained from each mother for participating in the study, after explaining the aim of the study. Regarding tool for measurement; questionnaire was developed after extensive review of relevant literatures, which consisted of two parts.

First part; in this part questions were designed to collect data about socio-demographic characteristics of mothers which included items such as age, occupation, level of education, family type, and parity.

Second part was concerned with child millstone developments which is consist of four domains including personal/social millstone development, language development, gross motor development, and fine motor development. Questions were categorized as multiple choice questions. The questionnaire was derived from development checklists birth to five that was adapted and revised by the Nelson developmental Millstone (Marcdante and Kliegman, 2014). With some modification, the primary questionnaire was reviewed by 10 experts from various specialties. Afterward, the researcher adjusted questionnaires according to expert's comments. By giving a score for each answer in a specific domain and the computing the median of answer scores for such domain, the following scoring system was adopted

- Personal/social millstone development
 - Good knowledge = 6–8
 - Average knowledge = 3–5
 - Poor knowledge = ≤ 2
- Language development
 - Good knowledge = 6–8
 - Average knowledge = 3–5
 - Poor knowledge = ≤ 2
- Gross motor development
 - Good knowledge = 6–8
 - Average knowledge = 3–5
 - Poor knowledge = ≤ 2
- Fine motor development
 - Good knowledge = 6–8
 - Average knowledge = 3–5
 - Poor knowledge = ≤ 2 .

In addition, to that pilot study was conducted for making sure of reliability of the study questionnaire. Data were entered analyzed using Statistical Package for the Social Sciences (version 23.0). Descriptive statistics were performed to the socio-demographic characteristics of the participating mothers. Chi-square test was used to test the relationship between mother's socio-demographic characteristics and mother's knowledge regarding child millstone development. *P* value was considered significant when it was <0.05 and highly significant when it was equal to or <0.01.

RESULTS

Socio-demographic Characteristics

This section will present the socio-economic characteristics of participated mother. A total number of 100 mothers were included in this study, as Table 1 showed that 39% of mother's age were between 30 and 40 years old. About 35% and 36%, respectively, were illiterate or had primary education. Regarding types of family, Table 1 showed

Table 1: Socio- demographic data of participated mother

n	Variable	Frequency	Percentage
A	Age of mothers		
	<20	5	5
	20–29	33	33
	30–40	39	39
	40–49	10	10
	50–59	6	6
	60–69	7	7
Total		100	100.0
B	Mother's level of education		
	Illiterate	35	35
	Primary	36	36
	Secondary	14	14
	Institute	9	9
	graduated college	6	6
Total		100	100.0
C	Family types		
	Nuclear	58	58.0
	Extended	42	42
Total		100	100.0
D	Occupation of mothers		
	Employed	34	34
	Unemployed	66	66
Total		100	100.0
E	Parity		
	≥2	58	58
	3–5	42	42
Total		100	100.0
F	Source of information		
	From parent	32	32
	Mass media	23	23
	Medical staff	20	20
	Previous experiences	25	25
Total		100	100.0

that 58% of participated mother were from nuclear family and 66% of them were unemployed. In addition, 58% of mother were had two or less children and 32% of participated mothers got their knowledge form their parents.

Mother's Knowledge Regarding Millstone Development

- Following table presented mother's knowledge regarding personal/social development millstone, as showed that 23% of mothers had correct answer regarding the item "At which age a child start to smile responsively?" Whereas (6%) of them had correct answer to "At which age a child work toward toys"
- Concerning mother's knowledge regarding language development millstone, Table 2 demonstrated that 21% of mother had correct answer toward item "At which a child searches for sound with his/her eyes?" Whereas 4% of mother has correct answer to items "at which age a child loughs and squeals?"

Table 2: Frequency and percentage of mother's knowledge about child development millstone

Items	F	%
(1) Personal/social millstone development		
1. At which age a child start to smile responsively?	23	23
2. At which age a child work toward toys?	6	6
3. At which age a child feeds his/her self or hold bottle?	12	12
4. At which age a child waves bye-bye?	8	8
5. At which age a child uses spoon and fork?	16	16
6. At which age a child removes garment and feeds the doll?	14	14
7. At which age a child brushes his/her teeth?	21	21
(2) Language millstone development		
1. At which a child searches for sound with his/her eyes?	21	21
2. At which age a child loughs and squeals?	4	4
3. At which age a child Babbles?	12	12
4. At which age a child says mam and dad but nonspecific?	4	4
5. At which age a child says mam and dad specifically	19	19
6. At which age a child says mam 1-2 other words?	19	19
7. At which age a child says at least 6 words?	4	4
8. At which age a child points to pictures?	17	17
(3) Gross motor millstone development		
1. At which age a child lifts shoulder while prone?	14	14
2. At which age a child lifts upon hands?	6	6
3. At which age a child rolls front to back?	22	22
4. At which age a child sits alone?	9	9
5. At which age a child pulled to stand and gets into sitting position?	13	13
6. At which age a child walks, stoops and stands?	19	19
7. At which age a child wakes back ward?	15	15
8. At which age a child walks up and down stairs?	2	2
(4) Fine motor development		
1. At which age a child tracks past mid line?	28	28
2. At which age a child reaches for object and raking grasp?	5	5
3. At which age a child transfers object hand to hand	20	20
4. At which age child starting to pincer grasp and bangs 2 blocks together?	2	2
5. At which a child puts block in cup	29	29
6. At which age a child scribbles and stacks 2 blocks?	7	7
7. At which age a child stacks 4 blocks?	5	5
8. At which age a child stacks 6 blocks and copies line?	4	4

And "at which age a child says mam and dad but nonspecific?"

- Regarding Gross motor development millstone, the same table has showed that 22% of mothers had correct answer to "At which age a child rolls front to back?" whereas, 2% of mothers had correct answer to "At which a child walks up and down stairs?"
- Fine motor development was another domain which were assessed in this study, as Table 2 has showed that 29% and 28%, respectively, of mother had correct answer to items "At which a child puts block in cup"

and “At which a child tracks past mid line?” Whereas, 2% had correct answer to “At which age a child starting to pincer grasp and bangs 2 blocks together?”

Association between Mother’s Knowledge and Mother’s Socio-demographic Characteristics

1. Mother’s age and Millstone development knowledge; there were no association between Mother’s age and their knowledge regarding Personal/social Millstone development, Language Millstone Development, Gross motor millstone development, and fine motor development, as shown in Table 3.
2. Mother’s level of education and Millstone development knowledge; there were no association between Mother’s level of education and their knowledge regarding Personal/social Millstone development, Language Millstone Development, and Gross motor millstone development. On the other hand, a significant association was found between the mother’s knowledge regarding fine motor development of children and the mother’s level of education ($P = 0.009$), as shown in Table 3.
3. Family types and Millstone development knowledge; a significant association was found between the mother’s knowledge regarding Personal/social Millstone development of children and the mother’s family types ($P = 0.03$). Whereas, there was no association between the mothers family types and their knowledge regarding Language Millstone Development, Gross motor millstone development and fine motor development as shown in Table 3.
4. Mother’s occupation and Millstone development knowledge; a significant association were found between the mother’s knowledge regarding Language Millstone Development and Gross motor millstone development of children and the mother’s occupation and ($P = 0.014$ and 0.03 , respectively). Whereas, there were no association between the mothers occupation

Table 3: Socio-demographic and mother’s knowledge regarding millstone development

Variable	Personal/social development			Language Millstone development			Gross motor millstone development			Fine motor development		
	Poor	Fair	Good	Poor	Fair	Good	Poor	Fair	Good	Poor	Fair	Good
Age of mother												
<20	2	2	0	0	1	1	0	2	0	0	2	0
20–29	3	22	8	2	18	10	7	19	4	0	28	2
30–40	5	28	8	3	20	12	11	17	8	1	32	3
40–49	3	5	2	0	1	4	0	1	4	0	5	0
50–59	1	2	2	0	2	0	2	0	0	0	2	0
60–69	1	1	5	0	1	0	1	0	0	0	1	0
Total	15	60	25	5	43	27	21	39	16	1	70	5
P value	0.659			0.74			0.12			0.84		
Mother’s level of education												
Illiterate	1	24	5	2	17	10	9	10	6	1	4	1
Primary	1	26	4	2	14	15	8	14	9	1	19	2
Secondary	2	10	4	0	8	2	3	6	1	1	8	2
Institute	2	10	0	1	3	0	1	3	0	2	27	0
graduated college	2	7	2	0	1	0	0	1	0	0	9	1
Total	8	77	15	5	43	27	21	39	16	5	29	6
P value	0.11			0.4			0.78			0.009		
Family types												
Nuclear	3	45	11	4	30	23	15	29	14	1	14	3
Extended	12	20	9	1	13	4	6	10	2	5	50	3
Total	15	65	20	5	43	27	21	39	16	6	64	6
P value	0.03			0.39			0.58			0.29		
Occupation of mothers												
Employed	5	10	8	1	12	1	8	6	0	3	10	1
Unemployed	10	45	17	4	31	26	13	33	16	7	50	5
Total	15	60	25	5	43	27	21	39	16	10	70	6
P value	0.61			0.014			0.03			0.99		
Parity												
≥2	4	35	20	2	31	15	15	26	7	14	30	4
3–5	6	25	10	3	12	12	6	13	9	7	19	2
Total	10	60	30	5	43	27	21	39	16	21	49	6
P value	0.21			0.3			0.42			0.89		

and their knowledge regarding Personal/social Millstone development and fine motor development, as shown in Table 3.

5. Mother's parity and Millstone development knowledge; There were no association between Mother's parity and their knowledge regarding Personal/social Millstone development, Language Millstone Development, Gross motor millstone development, and fine motor development, as shown in Table 3.
6. I need more clarification in Table 3, let me know more regarding frequency and scoring.

DISCUSSION

This section of the study present main discussion points about findings of the study. As showed in Table 1 that the majority of mother's age (39%) were between 30 and 40 years old. About 35% and 36%, respectively, were illiterate or had primary education, 58% of participated mother were from nuclear family and 66% of them were unemployed. In addition, 58% of mother were had two or less children and 32% of participated mothers got their knowledge form their parents. In contrast with a study conducted by Alkhazrajy and Aldeen in 2017 in Baghdad, which they stated that most of participated women were employed (70%) and their age between 20 and 29 years old. While, agreed with Alkhazrajy and Aldeen in 2017 regarding literacy which formed (30.25%) of study sample. 62% of studied sample were got more than 3 children.

Regarding study findings which are shown in Table 2 about Mother's knowledge regarding millstone development showed that 23% of mothers had correct answer regarding the item "At which age a child start to smile responsively?" "At which a child searches for sound with his/her eyes?" 22% had correct answer to "At which age a child rolls front to back?" and 59% and 58%, respectively, of mother had correct answer to items "At which a child puts block in cup" and "At which a child tracks past mid line?"

This finding is disagreed by the study result of Ertem et al. (2007), who found that most of participated mother had knowledge about social, language, gross, and fine child development domain. The reason of behind this may be related to the place of study which were conducted in Turkey that's their mother's knowledge is better than Kurdistan region mother.

Concerning the association between mother's knowledge and mother's socio-demographic characteristics, Table 3 showed that there were no association between mother's age and their knowledge regarding Personal/social Millstone development, Language Millstone Development, Gross motor millstone

development, and fine motor development. This is in contrast with the result reached by Ertem et al. (2007).

The current study showed that there were no association between mother's level of education and their knowledge regarding Personal/social Millstone development, Language Millstone Development, and Gross motor millstone development, this is disagreed with study done in Riyadh city by Moawed and Saeed (2000) were a statistically significant association was detected between mother's level of education and their knowledge regarding the mentioned Millstone developments.

On the other hand, a significant association was found between the mother's knowledge regarding fine motor development of children and the mother's level of education ($P = 0.009$) as shown in Table 3. Similar findings were detected in a study done in Jeddah, who recognized the effect of maternal education on the rate of childhood handicap and found that the risk of having a handicapped child declined sharply with there is increase in the level of maternal education.

Regarding types of family, there were a significant association, were found between the mother's knowledge regarding Personal/social Millstone development of children and the mother's family types ($P = 0.03$), similar findings were reached in a study conducted by Alkhazrajy and Aldeen in 2017 in Baghdad. Whereas, in the current study, there were no association between the mothers' family types and their knowledge regarding Language Millstone Development, Gross motor millstone development, and fine motor development, as shown in Table 3. Similar findings reported in Rikhy et al. (2010) study.

Regarding mother occupation there were significant association was found between the mother's knowledge regarding Language Millstone Development and Gross motor millstone development of children and the mother's occupation and $P = 0.014$ and 0.03 , respectively, in contrast with Malathi (2012) findings.

There was no association between Mother's parity and their knowledge regarding Personal/social Millstone development, Language Millstone Development, Gross motor millstone development, and fine motor development. This findings are in contrast with a study done in 2015 were no association was found between Mother's parity and their knowledge regarding above Millstone developments (Safadi et al., 2015).

CONCLUSION

This research studied that most of Kurdish mothers had poor knowledge regarding child millstone development

including all domains (social, language, gross, and fine motor). This study concluded that mother's level of education, types of family, and mother occupation has a vital role regarding mother's knowledge toward child milestone development. That mean the older aged other with high level of education and high parity have a good knowledge about children development. Therefore, designed an educational program regarding growth and development is crucial and give to mothers through Mass Media and health centers.

DECLARATION

We declare that the main text of this research is entirely our work. This work has not previously been submitted wholly or in part for any academic award or qualification other than that for which it is now submitted.

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