Knowledge of Mothers Regarding Poliomyelitis Eradication among Sample in Primary Health Care Centers in Baghdad City

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Abstract

Poliomyelitis (Polio) is viral disease that attacks the nervous system and it is highly infectious. Frequently, its victims show no symptoms, but about one in 200 infected children suffers from paralysis and sometimes death. Children less than five years of age are the most vulnerable group for infection while anyone can be infected by the disease.

The objectives of this study were to determine the level of mother's knowledge toward polio immunization and eradication, so as to find out knowledge of mothers toward polio immunization and eradication with associated factors.

A cross sectional study with a multistage method or (multistage sample), was carried out during the period from 15th September 2014 to 23rd December 2015. Data were collected from primary health care centers in Baghdad city by using a special questionnaire format which was constructed for this purpose, included one part: Knowledge of mothers. The study sample was (420) of mothers who gave their consent.

The results of the study indicated that mothers of urban residency were better than rural, middle age were better than early age; highly educated reported, were better than low educated women; mothers of crowding index of > 5 individual classified, had low correct response; of low socio-economic status assessed, had too low correct response concerning their knowledge about the disease.

Regarding to source of information the results indicated that the majority of mothers consider health personnel as the major source of information. The present study concluded that the mother's knowledge about vaccination was found to be inadequate.

Concerning with their knowledge, a highly significant association at $P<0.01$ among different levels of socio demographic characteristic variables were reported.

The study recommends increasing efforts to educate all mothers (by health education program) who attend the primary health care center for any reason regarding importance of oral polio vaccine doses (routine and campaigns) and never forget any of these doses.

Keyword: Knowledge, poliomyelitis, Eradication, PHCCs.

معارف الامهات حول القضاء على شلل الأطفال ضمن عينة من مراكز الرعاية الصحية الاولية في بغداد

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الخلاصة

شلل الاطفال هو مرض فيروسي معدي يصيب الجهاز العصبي والشائع ان ضحاياه لا تظهر عليهم اي اعراض لكن تقريبا طفل لكل مئتين طفل مصاب يعاني من الشلل واحيانا الوفاة.

اي شخص ممكن ان يصاب بالعدوى ولكن الاطفال دون سن الخامسة من العمر هم الاكثر عرضه للإصابة.

تهدف الدراسة لتحديد مستوى معارف الامهات حول لقاح شلل الاطفال الفموي والقضاء على المرض حول اللقاح، ولإيجاد العوامل المرتبطة بمعارف الامهات حول لقاح شلل الاطفال الفموي والقضاء على المرض .

أجريت الدراسة المقطعية وبطريقة العينة المتعددة المراحل خلال الفترة من 15ايلول 2014 الى 23 كانون الاول 2015 وتم جمع بيانات العينة من مراكز الرعاية الصحية الأولية لمدينة بغداد بأستخدام استبيان صمم لهذا الغرض ويتضمن الاستبيان على جزء معارف الامهات شملت العينة على (420) أم ممن وافقت على المشاركة بأعطاء المعلومات والأجابة على فقرات الأستبيان .

اشرت نتائج الدراسة على ان الامهات من المدينة كانوا افضل من امهات الريف , الاعمار المتوسطه افضل من الاعمار الصغيره ؛ ذوات الثقافات العليا افضل من بسيطي الثقافات فيما يخص المعلومات ومعرفتهن حول المرض ؛ اللاتي لديهن مؤشر الازدحام اكثر من خمسة افراد واللاتي مستوى معيشتهم الاقتصاديه والاجتماعيه واطئه كانت استجابتهن واطئه فيما يخص المعرفه بالمرض.

واظهرت الدراسة وجود علاقه بمستوى عالي المعنويه ($P<0.01$) لمستويات الخصائص الاجتماعية والديموغرافية.

أستنتجت الدراسة الحالية ان معارف الأمهات حول اللقاح كانت غير كافية.

توصي الدراسه بزيادة الجهود لتثقيف الامهات اللاتي يقمن بزيارة المركز الصحي لأي سبب كان (بواسطه برامج التثقيف الصحي) بأهمية جرعات لقاح شلل الاطفال الفموي سواء كانت الجرعات الروتينية او الخاصه بالحملات الموسمية وعدم نسيان او أهمال اي جرعة منها.

الكلمات المفتاحية: المعارف ,شلل الاطفال , القضاء على المرض, مركز الرعاية الصحيه الاولية.

Introduction

Knowledge of mothers are the factor that contributes in success or failure of immunizations program.

Information about knowledge regarding immunization is lacking in developing countries [1].

Iraq reported two cases of WPV1 in 2014, since 2000 the first confirmed case of wild poliovirus type 1 (WPV1) detected in unvaccinated child of 6-month-old of age who had the onset of paralysis on 10 February 2014 [2].

In Iraq the most recent case occurred in Baghdad-Russafa Province , Mada'in District, with onset of paralysis at April 7th 2014 [3].

A powerful coordinated multipartner plan is required in order to interrupt Poliovirus transmission at Middle East for protection and prevention of the region's children from paralytic polio [2].

Aims of the study

1. To identify mother's knowledge regarding polio immunization and eradication.

2. To find out mother's source of information regarding polio eradication.

3. To find out the knowledge of mothers toward polio immunization and eradication with associated factors.

Definition of term

Knowledge

Theoretical Definition

Is an awareness of the reality one acquires through learning investigation [4].

Operational definition:

Facts or principal and comprehension that possessed by respondents (women who are attending primary health care centers) concerning to their understanding of topic [4].

Methodology

Across Sectional study with multistage method or (multistage sample),carried out during the period from 15th December 2014 to 15th April 2015, data were collected from primary health care centers in Baghdad city by using a special questionnaire format which was constructed for this purpose, included part of Knowledge of mothers. The study sample was (420) of mothers who give their consent.**Mother's knowledge:** The question in this module used for measuring information of some volunteer mothers attending to PHCCs through participation in agreement to answer about questionnaire questions which performed by the researcher about disease eradication and vaccination , the knowledge question of 44 items, question no.two consist of 3 options, question no. three consist of 2options, question no. 5 consist of 3options, question no. 6 consist of 6 options, question no. 7 consist of 3 options question no. 9 consist of 3 options, question no. 16 consist of 2 options, question no. 17 consist of 10 options, question no.18 consist of 3 options, question no. 19 consist of 5options. The mothers answered about questionnaire format by direct interview in the present study.

Results

Table (1) Results shows that items of having failure assessment are (What is polio Bacterial, Parasite/ they are accounted 185(44%),180(42.9%) respectively, What are the mode of transmission?(By contaminated food and water) or (By sexual contact) they are accounted 202(48.1%),130(31%) respectively, At what age OPV doses should be given to your baby 18months (fourth dose),they are accounted 204(48.6%), What is the target age group for polio 3-5Years, >5years they are accounted 128(30.5%), 175(41.75%) respectively, and is it necessary to receive OPV during campaigns of polio every year up to the age of 5 years?), and they are accounted 125(29.8%), while leftover items are reported pass assessments, since their mean of score values, or relative sufficiency's values are recorded upper cutoff point.

Table (2) shows distribution and initial assessment for mothers according to studied questionnaire's items of knowledge part concerning asking about different sources of first information about polio. The results show that item of having failure assessment is (Source of first information about polio (Internet), and they are accounted 57(13.6%), while leftover items are reported pass assessments, since their mean of score values, or relative sufficiency's values are recorded upper cutoff point.

Table (1): Distribution and initial assessment of mothers regarding poliomyelitis eradication of studied Questionnaire's items of (Knowledge)

Items	Resp.	No.	%	MS	SD	RS%	Ass.
Have you heard about polio?	Don't know	4	1	0.92	0.27	92	Pass
	No	30	7.1				
	Yes	386	91.9				
What is polio / Viral	Don't know	171	40.7	0.55	0.5	55	Pass
	No	17	4				
	Yes	232	55.2				
What is polio / Bacterial	Don't know	186	44.3	0.44	0.5	44	Failure
	No	185	44				
	Yes	49	11.7				
What is polio / Parasite	Don't know	201	47.9	0.43	0.5	43	Failure
	No	180	42.9				
	Yes	39	9.3				
What are the mode of transmission? (By contaminated food & water)	Don't know	179	42.6	0.48	0.5	48	Failure
	No	39	9.3				
	Yes	202	48.1				
What are the mode of transmission? (By sexual contact)	Don't know	247	58.8	0.31	0.46	31	Failure
	No	130	31				
	Yes	43	10.2				
Is there a vaccine to prevent the disease?	Don't know	47	11.2	0.86	0.35	86	Pass
	No	11	2.6				
	Yes	362	86.2				
What its name? (Tetanus toxoid vaccine)	Don't know	129	30.7	0.62	0.49	62	Pass
	No	262	62.4				
	Yes	29	6.9				
What its name? (Measles vaccine)	Don't know	137	32.6	0.63	0.48	63	Pass
	No	266	63.3				
	Yes	17	4				
What its name? (Oral polio drops vaccine)	Don't know	96	22.9	0.75	0.44	75	Pass
	No	11	2.6				
	Yes	313	74.5				
At what age OPV doses should be given to your baby? At birth (zero dose)	Don't know	176	41.9	0.53	0.5	53	Pass
	No	22	5.2				
	Yes	222	52.9				
At what age OPV doses should be given to your baby? 2months (first dose)	Don't know	170	40.5	0.56	0.5	56	Pass
	No	16	3.8				
	Yes	234	55.7				
At what age OPV doses should be given to your baby? 4months (second dose)	Don't know	180	42.9	0.53	0.5	53	Pass
	No	16	3.8				
	Yes	224	53.3				
At what age OPV doses should be given to your baby? 6months (third dose)	Don't know	188	44.8	0.53	0.5	53	Pass
	No	8	1.9				
	Yes	224	53.3				
At what age OPV doses should be given to your baby? 18months (fourth dose)	Don't know	205	48.8	0.49	0.5	49	Failure
	No	11	2.6				
	Yes	204	48.6				
At what age OPV doses should be given to your baby? 4-6years (fifth dose)	Don't know	199	47.4	0.52	0.5	52	Pass
	No	3	0.7				
	Yes	218	51.9				
What is the target age group for polio? 0-3 years	Don't know	134	31.9	0.55	0.5	55	Pass
	No	57	13.6				
	Yes	229	54.5				

Items	Resp.	No.	%	MS	SD	RS%	Ass.
What is the target age group for polio? 3-5Years	Don't know	141	33.6	0.3	0.46	30	Failure
	No	128	30.5				
	Yes	151	36				
What is the target age group for polio? >5Years	Don't know	146	34.8	0.42	0.49	42	Failure
	No	175	41.7				
	Yes	99	23.6				
Is frequent rounds or campaigns are useful for your child?	Don't know	19	4.5	0.91	0.29	91	Pass
	No	20	4.8				
	Yes	381	90.7				
Can polio drops be given to a child having / Diarrhea	Don't know	25	6	0.82	0.39	82	Pass
	No	344	81.9				
	Yes	51	12.1				
Can polio drops be given to a child having / mild fever	Don't know	28	6.7	0.86	0.35	86	Pass
	No	362	86.2				
	Yes	30	7.1				
Can polio drops be given to a child having / cold	Don't know	27	6.4	0.83	0.38	83	Pass
	No	349	83.1				
	Yes	44	10.5				
Can the baby eat or drink (within half an hour) after administration of polio drops?	Don't know	32	7.6	0.85	0.36	85	Pass
	No	30	7.1				
	Yes	358	85.2				
Early notification about polio vaccine campaigns are good for immunized a large number of children?	Don't know	10	2.4	0.96	0.19	96	Pass
	No	5	1.2				
	Yes	405	96.4				
Is it necessary to receive OPV during campaigns of polio every year up to the age of 5 years?	Don't know	69	16.4	0.3	0.46	30	Failure
	No	226	53.8				
	Yes	125	29.8				
Premature infant should not be immunized until he or she gains the normal weight (2.500 gm-4 Kg)?	Don't know	12	2.9	0.94	0.24	94	Pass
	No	13	3.1				
	Yes	395	94				
Do you Know oral polio vaccine is safe and important for your child?	Don't know	0	0	1.00	0.07	99.5	Pass
	No	2	0.5				
	Yes	418	99.5				
Do you have a desire to understand the side effect of the vaccine?	Don't know	1	0.2	0.92	0.27	92	Pass
	No	33	7.9				
	Yes	386	91.9				
What are the barriers to eradicate polio by your opinion? Mother not available at home during campaign	Don't know	9	2.1	0.81	0.39	81	Pass
	No	71	16.9				
	Yes	340	81				
What are the barriers to eradicate polio by your opinion? Security condition in the country lead to migrate large number of families from their houses	Don't know	7	1.7	0.89	0.31	89	Pass
	No	38	9				
	Yes	375	89.3				
What are the reasons of dropout? Unaware of need for further immunization	Don't know	13	3.1	0.84	0.37	84	Pass
	No	56	13.3				
	Yes	351	83.6				
What are the reasons of dropout? Fear of side effect	Don't know	25	6	0.71	0.45	71	Pass
	No	95	22.6				
	Yes	300	71.4				
What are the reasons of dropout? Wrong idea about contraindication	Don't know	32	7.6	0.68	0.47	68	Pass
	No	103	24.5				
	Yes	285	67.9				

Items	Resp.	No.	%	MS	SD	RS%	Ass.
What are the reasons of dropout? Place /time of immunization are unknown	Don't know	5	1.2	0.8	0.4	80	Pass
	No	79	18.8				
	Yes	336	80				
What are the reasons of dropout? Illness of child	Don't know	4	1	0.81	0.4	81	Pass
	No	77	18.3				
	Yes	339	80.7				
What are the reasons of dropout? Mother too busy	Don't know	2	0.5	0.78	0.42	78.0	Pass
	No	92	21.9				
	Yes	326	77.6				
What are the reasons of dropout? Inconvenient time	Don't know	1	0.2	0.68	0.47	68.0	Pass
	No	133	31.7				
	Yes	286	68.1				
What are the reasons of dropout? Place of immunization too far	Don't know	1	0.2	0.69	0.46	69.0	Pass
	No	129	30.7				
	Yes	290	69				
What are the reasons of dropout? Family problem including illness of mother	Don't know	2	0.5	0.74	0.44	74.0	Pass
	No	107	25.5				
	Yes	311	74				
What are the reasons of dropout? Long waiting time	Don't know	5	1.2	0.63	0.48	63.0	Pass
	No	151	36				
	Yes	264	62.9				
Do you Know poliomyelitis is not eradicated due to / Lack of awareness of parents about importance of polio eradication	Don't know	59	14	0.79	0.41	79.0	Pass
	No	30	7.1				
	Yes	331	78.8				
Do you Know poliomyelitis is not eradicated due to / Parents lack of confidence about polio vaccine	Don't know	13	3.1	0.8	0.4	80.0	Pass
	No	69	16.4				
	Yes	338	80.5				
Do you Know poliomyelitis is not eradicated due to / Parents fear of side effects of polio vaccine	Don't know	17	4	0.75	0.43	75.0	Pass
	No	89	21.2				
	Yes	314	74.8				

Pass assessment are assigned if RS% recorded upper cutoff point (50%), otherwise Failure.

Table (2): Distribution and initial assessment of mothers concerning sources of first information about polio

Items	Resp.	No.	%	MS	SD	RS%	Ass.
Source of first information about polio? TV	Don't know	0	0	0.77	0.42	77.0	Pass
	No	96	22.9				
	Yes	324	77.1				
Source of first information about polio? Internet	Don't know	0	0	0.14	0.34	14.0	Failure
	No	363	86.4				
	Yes	57	13.6				
Source of first information about polio? Friends	Don't know	0	0	0.54	0.5	54.0	Pass
	No	195	46.4				
	Yes	225	53.6				
Source of first information about polio? Neighbors	Don't know	0	0	0.62	0.49	62.0	Pass
	No	158	37.6				
	Yes	262	62.4				
Source of first information about polio? Health Personnel	Don't know	0	0	0.78	0.41	78.0	Pass
	No	92	21.9				
	Yes	328	78.1				

Pass assessment are assigned if RS% recorded upper cutoff point (50%), otherwise Failure.

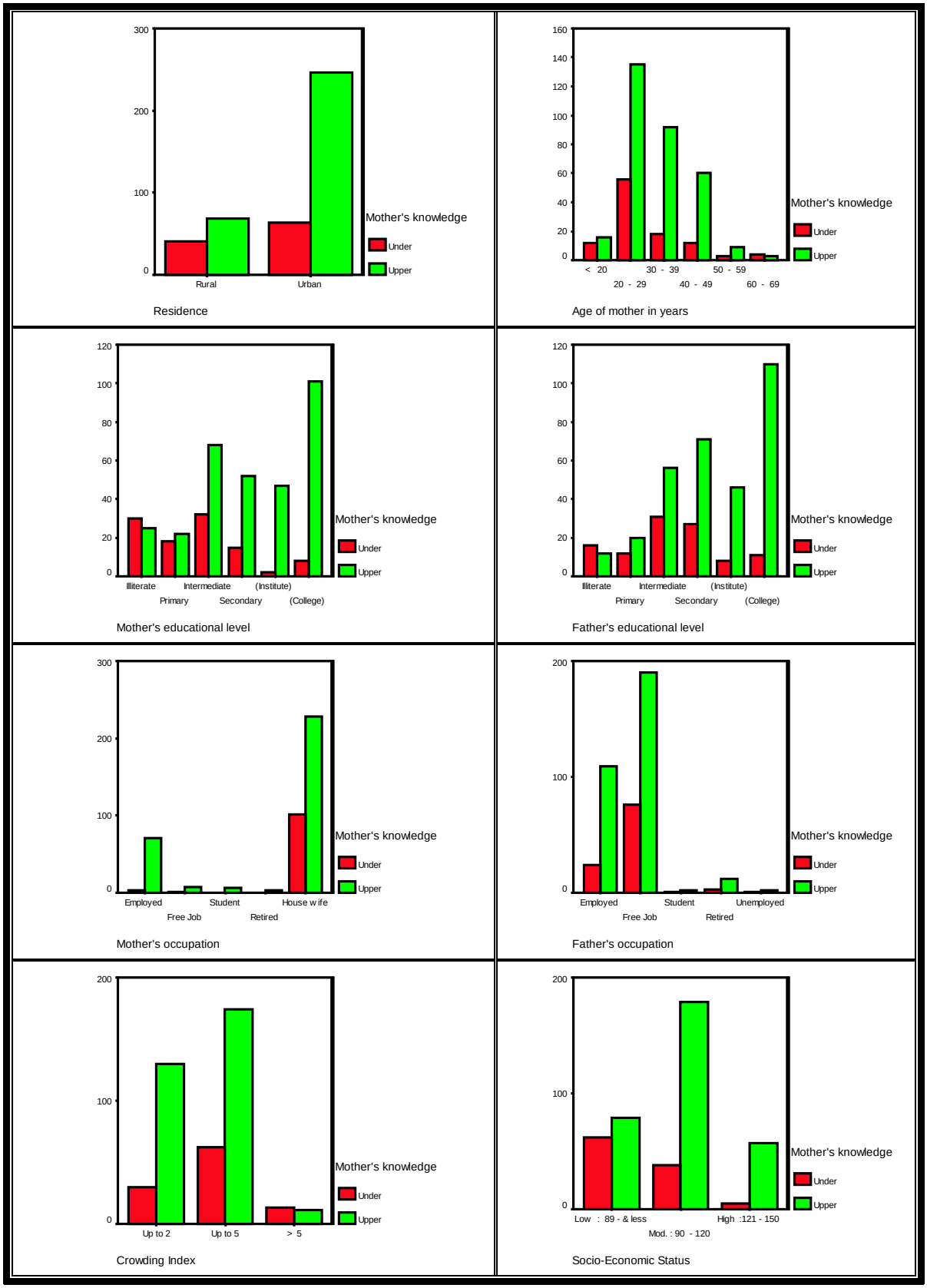

Figure (1): Distribution of Socio-Demographical Characteristics Aspects according to Knowledge Assessment

Discussion

Throughout the course of data analysis of this domain, its overall assessment depict that/asking about have you heard about polio? The majority of mothers (91.9%) were answered with" yes "The results of this study is compatible with study of Singh *et al*, In Delhi-. Indian (2001). They found (70.3%) of the participants knew that polio leads to paralysis of leg and (86.2%) knew that polio is preventable by vaccination [5].

Regarding to item of "What is polio/viral" showed that more than half of the mothers answered with "Yes" were (55.2%),this result is similar to study of Olajide , Onoja and Adewuyi- in Nigeria (2014).They found (78.3%) of respondents knew that polio is caused by a virus [6].

Relative to item of "What are the mode of transmission?(By contaminated food & water)" (48.1%) of the mothers answered with "Yes" , this result is in agreement with study of Olajide , Onoja , Adewuyi- in Nigeria (2014).They found (80.8%) of respondents knew that polio was transmitted through contact with feces [6].

Also another study done by Joseph, Subba, Nelliyanil - in india (2011), (10.9%) of participants knew that contaminated food &water is the mode of transmission [7].

Concerning item of "Is there a vaccine to prevent the disease" showed that the majority of the mothers (86.2%) answered with "Yes". These findings were Strongly similar to a study done by Singh *et al* In Delhi.- Indian (2001) were (86.2%) knew that polio is preventable by vaccination [5].

With respect to item of "At what age OPV doses should be given to the baby? At birth (Zero dose), half of the mothers (52.9%) answered with "Yes". This study is in similarity with the results of Ellen and Stephen, In Angola, Ethiopia, India – (2012), When asked at what age a baby needs to receive polio vaccine, approximately two-thirds (66.7%) of the mothers surveyed indicated in the first two weeks after birth, while (16.7%) said later and (16.5%) said they didn't know [8].

Responding of asking mothers about "At what age OPV doses should be given to the baby? 6 months (third dose)" half of mothers (53.3%) answered with "Yes". This study result

coincide with the results of Ellen, Stephen, In Angola, Ethiopia, India – (2012),were (37.3%) of mothers answered that it should be given at 6months of child age [8].

Relative to item of "What is the target age group for polio? 0-3years, 3-5years , (54.5%),(36%) respectively of mothers answered with "yes". This study result is less than the study results of Olajide , Onoja &others - in Nigeria (2014).they found (90%) of respondents stated that polio mainly affect children under 5years of age [6].

Whereas (23.6%) of respondent answered with "Yes" about the target age group for polio is >5years.This result is more than the result of Joseph, Subba , Nelliyanil - in india (2011), (5%) of participants answered with " yes" [7].

According to item of "Is frequent rounds or campaigns are useful for your child? " the majority (90.7%) of the mothers answered with "Yes". This study result is similar to study of Olajide, Onoja, Adewuyi- in Nigeria (2014). They found (72.5%) of respondents knew that Polio vaccine should be given at multiple times can protect a child [6].

Responding of mothers about "Can polio drops be given to a child having /mild fever " the majority (86.2%) of the mothers answered with "No" , This study result is more than the result of Joseph *et al* - In india (2011) were (40%) of the participants did not know that polio drops can be given to children with mild illnesses[7].

Whereas asking the mothers about "Can polio drops be given to a child having /cold" (10.5%) of the mothers answered with "Yes". This study result strongly agree with the results of Thomas *et al* –In Nigeria (2013),only (3.2%) of mothers answered with yes about the child with cold can be vaccinated [9].

Health workers frequently refuse to immunize children eligible to receive one or more immunizations, because of various fears and false beliefs; that a sick child should not be vaccinated, that a child should not receive multiple vaccinations on the same visit, that underweight children should not be vaccinated [10].

Concerning the ability of the baby to eat or drink within half an hour after administration of polio drops ?" the majority (85.2%) of the mothers answered with "Yes", whereas the study's

result of Joseph *et al* - in india (2011),(37.5%) of participants answered they can be given after thirty minutes[11].

In regarding to "What are the reasons of dropout? Unaware of need for further immunization" the majority (83.6 %) of the mothers answered with "Yes". The present study is inconsistent with the results of Ellen and Stephen In angola, Ethiopia, India(2012), Only (10%) indicated that they were unaware of the need of further immunization [8]

Responding of the mothers about "What are the reasons of dropout? Fear of side effect" the majority (71.4 %) of the mothers answered with "Yes". This study is incompatible with the results of Ellen and Stephen In angola, Ethiopia, India (2012), Only (9%) indicated that they believed that vaccination would harm children [8].

Parents mention fear of side effects like fever redness rash are common and normally clear up on their own within a day or two.as a reason for not vaccinating their children, this was mentioned by mothers in Somalia [11].

Concerning the reason of dropout: Wrong idea about contraindication " (67.9 %) of the mothers answered with "Yes" .This study is disagree with the result of Latifur *et al* - in Bangladesh (2012), they found (6.3%)of respondent declared that they had wrong idea about contraindication [11].

Relative to unknown place/time of immunization as a reason for dropout , the majority (80 %) of the mothers answered with "Yes" .This study is inconsistent with the results of Ellen and Stephen In angola, Ethiopia, India(2012), were (33%) said they were unaware of where or when the vaccination services would be available [8].

Illness of child as a reason of dropout the majority (80.7 %) of the mothers answered with "Yes". This study is incompatible with results of Ellen and Stephen In angola, Ethiopia, India(2012), Only (12%) said their child was sick on the vaccination day and(13%) said the child was away that day [9].

Health workers express logical reasoning for refusing to immunize sick children: they fear the vaccination being blamed if the child's condition worsens, and they claim they are only doing what the mother wants. In Kenya, nurses said they needed to see the scientific evidence about the safety of immunizing sick children [12].

Mother too busy as a reason of dropout the majority (77.6 %) of the mothers answered with "Yes". This study disagree with the result of Latifur *et al* - in Bangladesh (2012), they found (9.4%) of the reason was mother too busy [11].

Inconvenient time as a reason of dropout; (68.1%) of the mothers answered with "Yes". This study has no similarity with the result of Latifur *et al*- in Bangladesh (2012), they found only (7.8%) of the reason was inconvenient time [11].

Place of immunization too far as a reason of dropout (69 %) of the mothers answered with "Yes". This study is incompatible with results of Ellen and Stephen - In angola, Ethiopia, India (2012), were (25%) said the site was too far away [8].

Family problem including illness of mother as a reason of dropout the majority (74 %) of the mothers answered with "Yes". This study is inconsistent with result of Latifur *et al*- in Bangladesh (2012), they found (3.1%) of responding was the above reason [11].

Long waiting time as a reason of dropout, (62.9 %) of the mothers answered with "Yes". This study inconsistent with result of Latifur *et al* - in Bangladesh (2012), they found (3.1%) of responding was the above reason [11].

Doctors are responsible for informing a majority of respondents about immunization but a need exists to work further in the area. There is a need to educate doctors in this area since they found to be deficient in knowledge about immunization [12].

Knowledge about vaccination: most of the mothers from both rural and urban area believed that vaccine are safe, and a large proportion of mothers both from urban and rural setting would delay vaccinating their child in the circumstances of simple childhood illnesses. These myths must be abolished and mothers must be assured regarding the safety of vaccine [8].

Concerning TV. As source of first information about polio, the majority (77.1 %) of the mothers answered with "Yes". In several other studies done by Singh *et al* - in Delhi- india (2001) stated that television was found to be the commonest source of information for participants this indicates that television is a key resource to use when wishing to disseminate information of public health importance [5].

Friends, Neighbors as source of first information about polio, (53.6 %), (62.4 %) of the mothers respectively answered with "Yes ". This study incompatible with the results of Ellen

and stephen - In Angola, Ethiopia, India (2012) they stated that (33%) of friends and neighbors were the source of information [8].

Health personnel as source of first information about polio, the majority (78.1 %), of the mothers answered with "Yes". This study result is strongly similar to a study done by Dobe *et al*- in West Bengal and Agra (2004) reported that health workers were the main source of information and constitute (70%) of participants [13].

Health workers are supposedly the most effective means to improve the success of the program. This is because they are chosen from the community and are known to influence the knowledge of local people by interpersonal approach during door-to-door campaign as also observed in a study done by Manjunath and Pareek. In india (2003) [14].

Conclusion &Recommendation

The present study concluded that the mother's knowledge about vaccination was found to be inadequate.

Increase efforts to educate all mothers (by health education program) come to the health center for any reason of her visit regarding importance of oral polio vaccine doses (routine &campaigns) and never forget anyone of these doses.

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