Causes of Delay in Age Appropriate Vaccination

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ABSTRACT:

BACKGROUND:

The child vaccination status is influenced by factors such as the child's health status , economic status ,parental health attitudes and family characteristics . The effects of these risk factors including the child's age , poverty status , geographic location , race , ethnicity and education level of parents . We undertook this study to estimate the risk factors of children who had delay in age appropriate vaccination .

METHODS :

200 children with history of delay in their age appropriate vaccination were examined in their last visit to vaccination department in Fatema Al-Zahra teaching hospital . their mothers had been inquired about the real causes of delayed vaccination .

RESULTS :

Child sickness , poverty , large family size , low parental education level , terroristic explosion , one parent family , vaccine contamination rumor ,and displaced families , were significantly related causes of increased child vaccination delay .

CONCLUSION :

the study had concluded that large family size formed 30.5% of the demographic factors that influenced vaccination status of children .

KEY WORDS: vaccination , age appropriate vaccination .

INTRODUCTION :

The under immunization of preschool children has been persistent public health problem,although immunizations are considered to be the most cost effective clinical preventive service for children , many children experience lengthy delays prior to receiving recommended vaccinations .[1,2]

Elevated risk of vaccination delay can potentially have sever consequences .e.g. : lengthy delays in polio vaccine during the early months of age would increase the likelihood of having polio disease[3,4] .

The child vaccination status is influenced by factors such as the child's health status , economic status parental health attitudes and family characteristics[5-9] . The effects of these risk factors may be mediated by demographic factors including the child's age , poverty status , geographic location , race , ethnicity and education level of parents [10-13] .

Many studies have assessed the risks associated with inadequate immunization status have employed up-to-date status (i.e., whether or not doses were ever received) as the outcome measure[9-14] .few studies have considered the risk factors for vaccination delays from the perspective of whether the doses were administered at or near the recommended age [15,16] . We undertook this study to assess the impact of demographic factors on delay in age appropriate vaccination of children who attended the vaccination department in Fatema Al-Zahra teaching hospital for the period of 6 months .

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PATIENTS AND METHODS :

The study was carried out from 1st of Nov.2005 to 30th of April 2006 at Fatema Al-Zahra teaching hospital .There were 1352 children who attended the vaccination department during this period ,200 children were found to have delay in their age appropriate vaccination .

Taking in consideration the Iraqi immunization schedule for completion of Diphtheria, Tetanus toxoids &Pertussis vaccine (DTP) and oral Polio vaccine (O.P.V). 3rd dose is 6th month of age and for 1st booster dose of DTP &O.P.V. is 18th month of age , the maximum recommended age for completion of measles is 9th month of age . and that for Measles , Mumps and Rubella (MMR) is 15th mo of age , Bacilli calmette – Guerin (BCG) is given at 1st week of life , we had identify the children with delay in age appropriate vaccination .

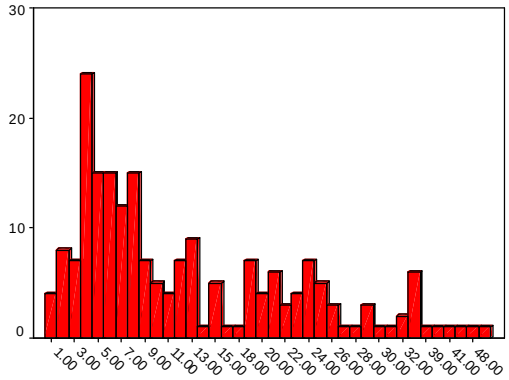
The data was collected by using standard questionnaire and direct interview with the mothers &also from the children vaccination records .We regard the family with more than 7 children as large size family ,medium size family (4-6 children) &small size family (1-3 children) according to classification of general residence in Iraq done by Iraqi Ministry of Residence &Construction at June 1980 (17) . We mean by low parental education level that they did not finished the primary school or they are illiterate .

Simple clinical examination including weight & height measurement were done for all these children .For each child the following data were collected ; age ,sex , residence , immunization state , cause of vaccination delay , family size & parental education level .

RESULTS :

The study shows that the age distribution frequency which is shown by fig -1- fall between 1st month of age and 27th month of age .

Figure 1, shows the age frequency of vaccination delay



Delay in age appropriate vaccination was higher among children who were under one year of age (120), and then those who were 1-2 year of age (74 children) , and then those of 2-5 year of age (6 children) .

The vaccination delay rate for each vaccine was ;

17% had no vaccination

31.5% of them had delay in 1st dose of DTP &O.P.V.

16.5%of children had delay in 2nd dose of DTP &O.P.V.

5% had delay in 3rd dose of DTP &O.P.V.

6% of them had delay in Measles.

13.5% of them had delay in1st booster dose of DTP and O.P.V.

1% of them had delay in 2nd booster dose of DTP and O.P.V.

Table1: shows the frequencies of each delayed vaccination dose .

Vaccine dose received	Frequency	Percent
No vaccination	35	17.5
BCG, Hepatitis B, Polio. vaccine	63	31.5
1st dose of DTP &O.P.V.	33	16.5
2nd dose of DTP &O.P.V.	10	5.0
3rd dose of DTP &O.P.V.	12	6.0
Measles.	18	9.0
MMR	27	13.5
1st booster dose of DTP and O.P.V	2	1.0
Total	200	100.0

As shown in T1 : delay in the DTP and polio 1st dose constitute for about 31 . 5% of the delay in age appropriate vaccination because most of the babies was vaccinated with BCG , polio and hepatitis B. vaccine , 17% of the babies had no vaccination at all and we found that , most of their causes of delay was child sickness .

Table – 2 – Shows the frequency of causes which lead to delay in vaccination .

Cause of delay	Frequency	Percent
large family size	61	30.5
low parental education level	55	27.5
child sickness	50	25
Terroristic explosion .	14	7.0
Displaced families	10	5.0
vaccine contamination rumor	7	3.5
one parent family	3	1.5
Total	200	100.0

We found that about 30.5% of vaccination delay were due to large family size

The 2nd most common cause of delay is low parental education level which implied 27.5 % of causes , child sickness (like simple flu or diarrhea ,fever ,neonatal jaundice & premature) formed 25% of vaccination delay causes .

Other causes were terroristic explosion 7% and displaced families 5% who were enforced to change their residence by the terroristic persons .

3.5% of delay vaccination causes were due to vaccine contamination rumor.

3 babies were found to be orphan so the mother ignored their vaccination and these account for 1.5% .

According to gender it was found that 54.5% of the babies were female 45.5% were male so there were nearly equal ratio of female ; male ratio (1.2 ; 1.02) .

DISCUSSION :

The finding of this study illustrate the important risk factors for delay in age appropriate vaccination and these risk factors were :child sickness , large family size , low parental educational level , vaccine contamination rumor , terroristic explosion , displaced families , one parent family .

Delay in the DTP &O.P.V. 1st dose constitute for about 31. 5% of the delay in age appropriate vaccination because most of the babies were vaccinated with BCG , polio and hepatitis B. vaccine in order to be registered in the governmental food register to take their monthly food supply ,it means the family is worried about food more than their worriment about child vaccination .

Also the study showed that about 30.5% of delay vaccination dose was due to large family size because these families concentrate on food supply and house renting and they neglect their babies health and vaccination .

Simple childhood sickness (like simple flu or diarrhea ,fever ,neonatal jaundice & premature) were found to form 25% of delay vaccination causes , most of these contraindications were false contraindications for immunization some of them were advised by medical personnel (40%) , others by mothers advise (60%) .

Both medical personnel and parents are sometimes reluctant to vaccinate children with minor sickness that means most of parents and some of health personnel do not know the real contraindications and precautions to vaccines .

Ali Abdulrazzaq (17) , had found that the under immunization contribute about 39% of children studied by him in AL-Mansor teaching hospital at 1998 but our results showed that children who had delayed vaccination were only 14.4% of the children studied in our study , this means there is an improvement in vaccination coverage now .

He found that the most common cause of immunization failure was false contraindications for immunization (55.4) while our results showed that simple child sickness (false contraindications) formed about 25% of causes of delayed vaccination that means there is improvement in health education about vaccination now .

We found that 27.5 %of causes of delay in vaccination were due to low parental education level .

Most mothers cannot read and write so they cannot read the next dates for vaccination which are written in the children vaccination records supplied by the health personnel .

Another causes were terroristic explosion ,one parent family & displaced families ,so we have to improve specific programs for crisis & specially the displaced families to enable them to contact the primary health centers programs in general & the vaccination in specific .

Reducing the risk associated with organizational challenges that confront single parents and those with multiple children may be influenced through public assistance program that are tied to family size such as through women , infants and children

programs or temporary aid to needy families in crisis .

We had found that the most common causes of delayed vaccination was large family size (30.5%) which co inside with Keven J. Dombkowski, Paula M .Lantz, Gary L. Freed;(16) ,they concluded that , absence of two parents household , large size family (more than 4 children)& low parental education level formed the most common causes of delay in age appropriate vaccination .

CONCLUSION :

Despite the immunization coverage of the Ministry of Health there was 14.5% of the children in this study had delay in their age appropriate vaccination 60 % of these children were under one year of age which is a critical period for contracting a wild communicable disease .

The study had concluded that large family size formed 30.5% of the demographic factors that influenced vaccination status of children .

There were false contraindications for immunization (simple child sickness) which formed about 25% of delayed vaccinations some of them were advised by mothers (60%), others by health personnel (40%) .

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