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ORIGINAL ARTICLE

Determinants of factors contributing to Vaccination Dropout among Children Less than Five Years in Holy Karbala City

Esraa Shaker[1],Anas Adnan[2], Hussien Saadi[3], Mohammed Kadhim[4] and Khamees Bandar[5]
[1]University of karbala/Faculty of Nursing /pediatric Nursing Branch
[2]University of karbala/Faculty of Nursing /pediatric Nursing Branch
[3]University of karbala/Faculty of Nursing
[4]University of karbala/Faculty of Nursing /pediatric Nursing Branch\ pediatric
[5]University of karbala/Faculty of Nursing /pediatric Nursing Branch
Email: [1]esraa.shaker1990@gmial.com, [2]anas.a@uokarbala.edu.iq, [3]hussein.alhasani@uokerbala.edu.iq
[4]mohammed.kadhim@uokarbala.edu.iq, [5]Khamees.b@uokarbala.edu.iq

ABSTRACT
The vaccination is too important for human health in general and the health of the child in particular, because children are more susceptible to diseases due to the incompleteness of their immune system and its ability to adapt to the surrounding environment perfectly, so it is necessary to take all the recommended vaccinations at every stage of their life. Knowing the reason that play a role in children dropping out of vaccines .find out association between child family socio-demographic characteristics with children dropping out factors A non – probability (convenient) sample of (250) care giver of children were from (4) primary health care centers in Al-hussania sector The study instrument consists of two parts: (first) Child's Sociodemographic characteristics, (two) Factors of vaccination Drop out. Content validity of the questionnaire is determine through the panel of experts and internal consistency reliability of the questionnaires is determine for through the pilot study period time is more than one week. Data are collected through the use of the study instrument, children's immunization records and the structured interview technique with mothers as means of data collection for the period from April 6th 2022 to June 2nd 2022Data are analysis through the application of descriptive and inferential statistical data analysis by SPSS. The results of the present study indicated (29.6%) from one month most of children were female (53.2%) , level factors vaccination dropout among children less than 5 years in Karbala city were moderate with Mean ± SD .46 ± 144. There is immunization failure in most of vaccines and the immunization status of children was partially. there were non-significant statistical differences between the factors vaccination dropout among children less than 5 years with the demographic information at P > 0.05.
Keywords: Vaccination, Immunization, Low birth weight

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INTRODUCTION

A tried-and-true method for preventing and curing infectious infections in children is vaccination [1]. One of the most economical public health initiatives to lower child morbidity and death is immunization of children. To lower the frequency of vaccine-preventable illnesses in children, it is crucial to get the complete course of prescribed vaccination doses provided at the right age, in addition to achieving high coverage with powerful vaccines. Therefore, to ensure that children receive all doses of all vaccinations before turning one, ensure their childhood vaccination status [2]. Because children are more susceptible to diseases due to their immature immune systems and their limited capacity for perfect environmental adaptation, vaccination is crucial for both human health in general and the health of children in particular. Children should receive all recommended vaccinations at every stage of their lives. Nearly 20% of fatalities among children under the age of five occur each year due to illnesses that can be prevented by vaccination on a global scale. Around the world, a lot of kids leave the immunization program early, get their shots late, or get them only partially [3]. Therefore, all countries must work to reduce the number of

children who drop out of vaccines and place them within special schedules to complete their vaccination, even if it is in the late stages. In this study, we will discuss the factors related to children dropping out of vaccines and give solutions to all the problems that stand in the way of children not getting the required vaccine. Childhood immunization is one of the most valuable public health interventions available [4]. For reducing morbidity and mortality among children. According to estimates, routine vaccinations globally can save 2.5 million child deaths each year from diphtheria, tetanus, pertussis, and measles [5].

Despite this enormous use, immunization coverage in developing countries has reported to being low [6]. In 2011 alone, 1.5 million children died from Vaccine Preventable Diseases (VPDs) [7, 8]. Millions of lives would have been spared worldwide if all presently available vaccinations were widely used and every country obtained at least a 90% immunization coverage [9].

Importance of the Study

Nearly 20% of fatalities among children under the age of five occur each year due to illnesses that can be prevented by vaccination on a global scale. Around the world, a lot of kids leave the immunization program early, get their shots late, or get them only partially [3]. The demonstrated advantages that immunizations are effective and affordable interventions to enhance children's survival, and children in many areas of the globe, make investigating the reasons why children stop receiving vaccinations highly essential [7, 10]. Low vaccination coverage is associated with outbreaks of vaccine preventable diseases [7]. Vaccinations are a very effective and economical public health intervention. Large gaps in full immunization coverage still exist, though. We sought to discover factors associated with vaccination dropout and report the immunization experiences of caregivers [12]. Determine the vaccination status of kids in the 5 to 14 age range and research the socioeconomic elements that affect a kid's immunization status. To assess the vaccination services available and to pinpoint the immunization health system deficiencies that are responsible for the Hoima District's poor vaccine uptake and completion rates [13]. Identify factors predicting high immunization dropout rates among children 5 years in the Mont Ngafula II health district [15]. Bringing data about immunization service coverage and its associated factors from Sekota Zuria district, which is one of the hard-to-reach areas in Amhara Region, Ethiopia [14]. The present study assessed the magnitude and associated factors of delayed vaccination among 5 years old children. Investigate rotavirus coverage and associated factors in a rural population of the northwest, Ethiopia [16]. Determine the vaccination status of kids in the 5 to 14 age range and research the socioeconomic elements that affect a kid's immunization status. To assess the vaccination services available and to pinpoint the immunization health system deficiencies that are responsible for the Hoima District's poor vaccine uptake and completion rates.

MATERIAL AND METHODS

Design of study

Descriptive cross-sectional design was used. The goal of study this study is knowing the reason that play a role in children dropping out of vaccines find out association between child family socio-demographic characteristics with children dropping out factors

The study population:

The study population is subset of the overall target population from which the sample is drawn. The study population of this study is all children which under years 5

Setting:

The setting of this study is primary health care centerin Karbala city– Inter sectoral alhosenea

Sample (participants):

The sample of this study is vaccination dropout among children less than 5 years

Sampling method:

The Sampling is a method of choosing individuals or a subset of the population in order to make statistical inferences and estimate population characteristics. Probability sampling involves random selection by using simple random methods by choosing randomly in alhossania sector.

Characteristic of participants:

1.Children aged between birth -5 years.
2.Children vaccination dropout among children less than 5 years
4.Children are without any prevent vaccine

Exclusion categories:

1. Low birth weight
2. Disease immune system
3. Cancer
4. Chemotherapy

Sample size:
The sample was taken about 250 children.
Instrument of the study
The data collection tool in this study includes 3 sections as follows:
1. Demographic data to obtain information about the participants include: gender, age, child's arrangement in the family, number of family members, monthly income, marital status of the child's parents, educational level of the parents, occupation of the parents, source of information on vaccination
2. Factors of not completing vaccinations
A. Factors related to the health center include unavailable vaccine, immunization staff not present, and inappropriate vaccination time
B. Family and child-related factors include unaware of the need to vaccinate, unaware of the need to return to the subsequent dose, uncertainty about the vaccination schedule, fear of side effects, fear of contracting COVID-19, rumors about the vaccine, mother being too busy, forgetting the mother, family problems including: That's a mother's disease
The scale for determining the factors for dropping out of vaccination for children less than 5 years old in Karbala city includes 26 items and response options range from 1 to 2 with (yes = 1, no = 2) the minimum and maximum scores are 26 and 72.
Validity:
In the present study the qualitative content validity of tools with judgment of 9 faculty members of Karbala University / collage of nursing are done and the required change are applied.
Reliability .
Through the application of split-half methodologies and the calculation of the Cronbach alpha correlation coefficient on replies from (75) care providers, the internal consistency reliability of the questionnaire is established. (r=0.88) is the correlation coefficient. This shows the questionnaire (a factor of vaccination drop out) is a sufficiently accurate assessment.
Data Collection Procedure
To conduct the research, the researchers first obtained written permission from the educational representative of the College of Nursing, University of Karbala, then went to the Karbala Health Department, and then went to the Training and Development Center, and then went to the Husseiniya sector
The questionnaire was completed by the parents of the children in the desired time period although some parents were late in the questionnaire and sampling was conducted from 8:30 am to 1:00 pm. The sampling time was 50 days from March 2, 2022 to April 30, 2022 and each survey took an average of 10 to 20 minutes.
Data analysis
The mean and standard deviation of the survey results were first computed. The statistical program for social sciences (SPSS) version 2021 was then used to assess the correlation between variables using the Pearson correlation coefficient, Analysis of variance (one way ANOVA), and Linear regression model. 0.05 was the significance threshold.

RESULT
This part presents the statistical result and findings of the current study in tables and their correspondence with the objectives of the study as shown in the tables:
Table (1) showed that age of children(n=250) at most 29.6% from birth to one years . According to the gender, the most of children were female (53.2%). And also the results showed child birth order at most of children four or more (35.6%) and also the result number of family at most 5-7 (33.2%) ,According monthly income at most Enough up to appoint (40.8%) ,and the result showed most marital status of the parents married (87.6%), According to the Mother's educational level most primary school (36.0%), According to the mother occupation most the housewife (50.0%), And the result at showed father education level most primary school (34.4%) ,According to the father occupation employee (44.0%) ,The result showed that source of information about vaccination in general the most of health care center (82.0%)

Table 1: Distribution of the Participants According to Demographics Characteristics

Demographics	Subgroup	f.	%
Gender child	male	117	46.8
	female	133	53.2
	Total	250	100.0
Age of children (years)	0-1	74	29.6
	2-3	65	26.0
	3-4	65	26.0
	4-5	46	18.4
	Total	250	100.0
Child birth order	First	34	13.6
	Second	54	21.6
	Third	73	29.2
	Four or more	89	35.6
	Total	250	100.0
Number of family members	1-3	81	32.4
	3-5	49	19.6
	5-7	83	33.2
	7-10	37	14.8
	Total	250	100.0
Monthly income	Enough	51	20.4
	Not enough	97	38.8
	Enough up to appoint	102	40.8
	Total	250	100.0
Marital status of the parents	married	219	87.6
	separate	20	8.0
	dead	3	1.2
	one of them is dead	8	3.2
	Total	250	100.0
Mother's educational level	does not read and write	15	6.0
	reads and writes	45	18.0
	Primary School	90	36.0
	High School	65	26.0
	University	28	11.2
	Postgraduate Studies	7	2.8
	Total	250	100.0
Mother occupation	employee	80	32.0
	student	45	18.0
	housewife	125	50.0
	Total	250	100.0
Father education level	does not read and write	21	8.4
	reads and writes	30	12.0
	Primary School	86	34.4
	Secondary School	56	22.4
	University	42	16.8
	Postgraduate Studies	15	6.0
	Total	250	100.0
Father occupation	employee	110	44.0
	student	6	2.4
	Freelance	36	14.4
	Not employed	98	39.2
	Total	250	100.0
Source of information about vaccination in general	family	20	8.0
	TV	5	2.0
	Internet	10	4.0
	health care centers	205	82.0
	hospital	10	4.0
	Total	250	100.0

S. D=Standard Deviation ,f= Frequency, %Percentage

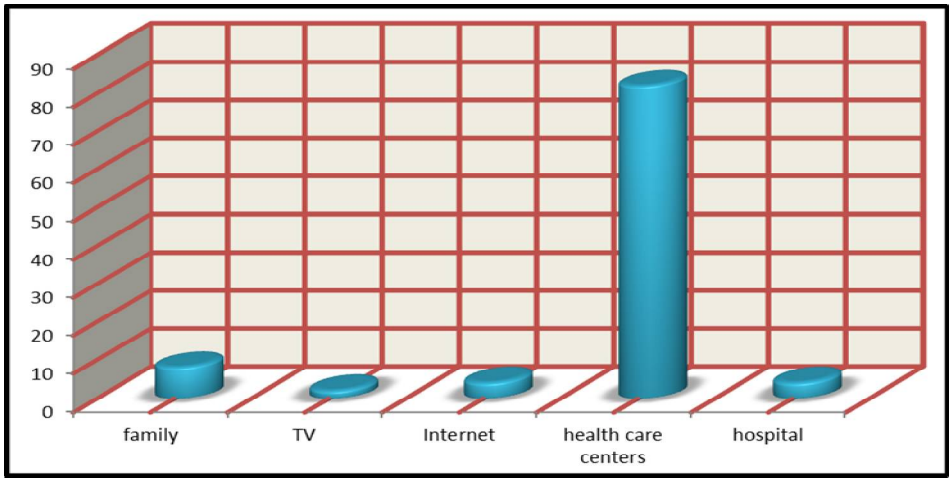

Figure (1): Source of information about vaccination in general.

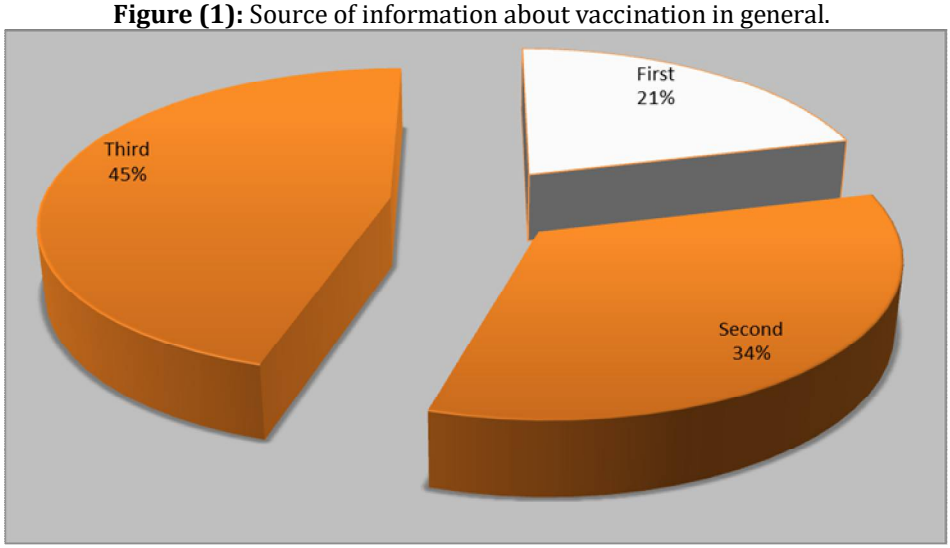

Figure (2): Child birth order.

Table 2: Distribution the factors vaccination dropout among children less than 5 years in Karbala city

Items			
Factors related to health center	M	S.D	Eva.
1-vaccine not available	.43	.496	M
2-healthcare center staff misconduct	.40	.492	M
3-Time of immunization inconvenient	.36	.481	M
4-child ill –not give vaccine	.48	.501	M
Total	.42	.255	M
Factors related to the family and child			
1-unaware of need for immunization	.36	.481	M
2 -unaware of need to return for subsequent dose	.47	.500	M
3 -faith in immunization schedule	.33	.470	L
4 -fear of adverse effects	.75	.435	H
5 -fear during the last two years the (covid -19)period from the routine schedule of vaccinations	.68	.466	H
6-rumors about vaccine such as vaccine causes diseases	.25	.433	L
7 -mother too busy	.74	.437	H
8- mother forgetfulness	.45	.498	M
9 - family problems including illness of mother	.53	.500	M
	.51	.161	M
Total	.46	.144	**M**

M = Mean of score, S.D=Standard Deviation, Eva=evaluation level, L=low(0 – 0.33), M=Moderate(0.34- 0.66), H=high (0.67- 1).

Table (2) showed the assessment of the level factors vaccination dropout among children less than 5 years in Karbala city were moderate with Mean ± SD .46 ± .144, the higher percentage in factors related to the family and child with Mean ± SD .51 ±.161 and the lower percentage in factors related to health center with Mean ± SD .42 ±.255.

Table 3: *The association between factors vaccination dropout among children less than 5 years with the demographic information*

	Factors		
	F	**p. value**	**Sig.**
Gander	.043	.837	**NS**
Age	.414	.743	**NS**
Order	.212	.888	**NS**
Number of family	.793	.499	**NS**
Economic	.056	.945	**NS**
Marital status	.318	.813	**NS**
Mother education level	1.150	.335	**NS**
Mother occupation	.373	.689	**NS**
Father education level	.590	.708	**NS**
Father occupation	.697	.555	**NS**
Source of information	1.768	.136	**NS**

P=probability value, NS: Non-Significant at P > 0.05, S: Significant at P < 0.05, HS: Highly Significant at P < 0.01.

The results in table (3) showed there were non-significant statistical differences between the factors vaccination dropout among children less than 5 years with the demographic information at P > 0.05.

DISCUSSION

Dissuasion of demographic characteristic

Table (1) showed that age of children(n=250) at most 29.6% from birth to one month. According to the gender, the most of children were female (53.2%). And also the results showed child birth order at most of children four or more (35.6%) and also the result number of family at most 5-7 (33.2%) ,according monthly income at most Enough up to appoint (40.8%) ,and the result showed most marital status of the parents married (87.6%), according to the Mother's educational level most primary school (36.0%), according to the mother occupation most the housewife (50.0%), and the result at showed father education level most primary school (34.4%) ,according to the father occupation employee (44.0%)the result showed that source of information about vaccination in general the most of health care center (82.0%) . The result agree study with [3]

Discussion factors vaccination dropout

Table (2) showed the assessment of the level factors vaccination dropout among children less than 5 years in Karbala city were moderate with Mean ± SD .46 ± .144, the higher percentage in factors related to the family and child with Mean ± SD .51 ±.161 and the lower percentage in factors related to health center with Mean ± SD .42 ±.255. the result agree the study [9].

Discussion The Relationship Between Factor Vaccination dropout And Demographic Characteristic

Table (3) showed there were non-significant statistical differences between the factors vaccination dropout among children less than 5 years with the demographic information at P > 0.05. The result disagree with [10].

CONCLUSIONS

1. Most of children were female and at age from 0-1 year
2. Most of children's mothers primary school , married and housewives. Most of children's fathers primary school, had a job and the monthly income hardly enough.
3. There is immunization failure in most of vaccines and the immunization status of children was partially.
4. There is no differentiation between immunization factor and the children demographic characteristics (age, immunization status, mothers and fathers level of education, family income, father's occupation).

RECOMMENDATIONS

1. Supporting teams after the campaigns to comb the drop-out of children by two different teams means team complement the work of the other to prevent the leak completely
2. Media aspect of all vaccines, its benefits and its side effects, as well as gaining parents' trust in vaccines and correcting the misconceptions of most people..
3. Successful program and supporting in some health centers and not to force the centers in one line, since each center has its own privacy, population and geography.
4. Electronic documentation for easy identification and communication with families who are late to take vaccination of their children.
5. Future studies can be conducted on large sample sized and nation wide

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