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AWARENESS REGARDING EAR INFECTIONS AMONG MOTHERS OF UNDER-5 CHILDREN ATTENDING IN TEACHING HOSPITAL

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ABSTRACT

Ear infections is a collective of infective or inflammatory disorders of the middle ear. These infections account for majority of antibiotic prescriptions and surgery in children. Many of the risk factors for ear infections in children could be modified by adopting proper lifestyle changes which helps in control of ear infections and its complications. Descriptive, cross-sectional research design was used to find out awareness regarding ear infections among mothers of under-5 years children. Total 118 mothers were selected by using non-probability purposive sampling technique from pediatric out-patient department of Chitwan Medical College, Bharatpur-5, Chitwan and data were collected by using structured interview schedule. The data was entered into IBM SPSS version 20 and analysed in terms of descriptive statistics and inferential statistics. Out of 118 respondent, median age was 26 with inter-quartile range of 6. More than half 52.5% of respondent were aware about ear infections whereas less than half 47.5% of respondent were unaware about ear infections. Level of awareness regarding ear infections was significantly associated with ethnicity (p=0.006), religion (p=0.002) and respondent child previous history of ear infections (p= 0.003). Level of awareness plays an important role in the care of a child. Mothers knowledge regarding ear infections plays an important role in bringing down the morbidity caused by it. Lifestyle modification such as avoidance of child exposure to cigarette smoke, vaccinating the child, avoidance of bottle feeding etc can prevent ear infections in children.

INTRODUCTION

Middle ear infections also known as otitis media covers a wide range of middle ear problems. It is common childhood disease 75% of all children has had one episode of middle ear infections by the age of five.[3] The etiology of middle ear infections are multifactorial and include genetic, infections, allergy, environmental, social & racial factors and eustachian tube dysfunction. It can present itself in different form because of large variations in the nature of the disease.[8] Children growing up in low socio-economic status have higher risk factors of middle ear infections and that their speech and language development is especially at risk from otitis Media. Other risk factors of middle ear infections include recurrent upper respiratory tract infections, short duration of breast feeding, family history, male gender. Many of these risk factors could be modified by adopting proper lifestyles changes which helps in control of middle ear infections and its associated sequel.[4] Young Children are more prone to develop middle ear infections because of lack of protective immunity and a shorter course of Eustachian tube as compared to adults. Various signs indicating middle ear infections in children includes pulling the ear, Crying trouble sleeping, Fever, fluid draining from the ear. Middle ear infections can be prevented by reducing the risk factors associated with them like vaccinating the child, avoidance of exposing child to cigarette smoke, avoidance of supine feeding position.[9] Worldwide systematic review estimated that there are 709 million new cases of acute otitis media annually, with greater than half in children than half in children less than five years of age.[12] It has been estimated recently that around 20,000 people die annually from complications associated with middle ear infections, with the highest mortality rates in the children less than 5 years of age. Recurrent or chronic forms of the disease can lead to considerable hearing loss and negatively affect learning ability and scholastic achievement.[7] Mothers lack of knowledge about otitis media risk factors suggested that a public health education campaign should target mothers of young children. In addition to this, training and encouragement of health care professionals is needed to disseminate information to mothers and other caregivers on risk factors of otitis media for the primary prevention of middle ear infections.[1] Middle ear infections is a leading cause of childhood morbidity. It can have a crippling effect on a child's development. Furthermore, it is associated with significant economic and social burdens on the child's family and the healthcare system.[10] A study conducted in Port Harcourt, Nigeria

revealed that among 226 pupils, 57 had otitis media effusion, giving a prevalence of 25.2%, 54.4% had unilateral otitis media effusion while 45.6% had bilateral otitis media effusion. The peak age prevalence for otitis media effusion was at the age of 2 years. There is a high prevalence of otitis media with effusion thus making it a common disease among the preschool age group with the peak age of occurrence being at the age of 2 years.[11] A study from Saudi Arabia revealed that 70.6% mother had poor knowledge regarding otitis media. Poor knowledge regarding the modifiable risk factors of middle ear infections suggest a healthcare educational programme to be implemented to increase their awareness.[1] Mother is the prime caregiver of the baby so her existing awareness on child care is important to know in order to find out the facts and encourage good practice and discourage the bad ones. Mother's awareness about ear infections plays an important role in bringing down the complications caused by it, which in turn will help in bringing down the mortality and morbidity of the country.

Research Methodology

Descriptive, cross-sectional research design was used to find out awareness regarding ear infections among mothers of Under-5 children.

Study Design: Descriptive, cross-sectional research design was used.

Study Location: Pediatric Outpatient Department of Chitwan Medical College teaching Hospital Bharatpur, Chitwan.

Population: The population of the study were the mothers attending pediatric outpatient department of Under-5 children of CMCTH.

Data collection time: Data was collected in 4 weeks from the date 8th July to 6th Auguest 2019 at Pediatric OPD, CMCTH by using a structured interview schedule.

Sample Size: 118.

Subjects and selection methods

Non-probability purposive sampling technique was used for selecting the sample of the study. Structured interview Schedule was developed by researcher herself. The research instrument consisted of two parts: Part I- Questions related to socio-demographic information. Part II- Questions related to awareness regarding ear infections.

Procedure methodology

Ethical approval was obtained from Chitwan Medical College (CMC)- Institutional Review Committee (IRC), Bharatpur 10, Chitwan. The verbal informed consent was taken from each respondent prior to data collection. Data was collected by using a structured interview schedule by researcher.

Statistical Analysis: All collected data was checked and reviewed for completeness, consistency and accuracy and entered in Statistical Package for Social Sciences (SPSS) version 20 for analysis. All data were analyzed and interpreted in terms of descriptive statistics (frequency, percentage, median, and inter-quartile range) and inferential statistics (Chi-Square test) and findings was presented in tables and interpreted accordingly.

Table 1: Respondents' Socio-demographic Characteristics n=118.

Variables	Frequency	Percentage
Age group(in years)		
18-22	23	19.5
23-27	43	41.5
28-32	39	33.1
≥33	7	5.9
Median: 26 (IQR)=*6(29-23) years ,Min-18,Max-35*		
Religion		
Hindu	101	85.6
Buddhist	17	14.4
Ethnicity		
Brahmin/Chhetri	62	52.5
Dalit	10	8.5
Janjati	39	33.1
Newar	7	5.1
Place of residence		
Gaupalika	22	18.6
Nagarpalika	96	81.4
Number of Children		
1	62	52.5
2	44	37.3
3	12	10.2

Educational Level		
General education	4	3.4
Basic education	30	25.4
Secondary education	72	61
Bachelor and above	12	10.2
Occupation		
Service	11	9.3
Farmer	14	11.9
Self employed	7	5.9
Home maker	86	72.9

Table 2: Respondents' Husbands' Educational level and Occupation n=118.

Variables	Frequency	Percentage
Educational Level		
General education	1	0.8
Basic education	27	22.9
Secondary education	73	61.9
Bachelor and above	17	14.4
Occupation		
Agriculture	13	11
Abroad	28	23.7
Business	25	21.2
Labor/daily wage earner	7	5.9
Service holder	45	38.1

Table 3: Respondents' Child Previous History and Number of Times of Ear Infection and Availability and Accessibility of Health Services n=118.

Variables	Frequency	Percentage
Child previous history of ear infections		
Yes	24	20.3
No	94	79.7
Number of times of ear infections		
1	16	66.7
2	4	16.7
3	2	8.3
More than 3	2	8.3
Availability of Health Services		
Yes	112	94.9
No	6	5.1
Accessibility of Health Services		
Yes	103	87.3
No	15	12.7

Table 4: Respondents' Source of Information n=118.

Variables	Frequency	Percentage
Source of Information**		
Health professional	48	30.6
Friends	20	12.7
Family	49	31.2
Relatives	13	8.3
Mass media	17	10.8
Awareness programme	10	6.4

***Multiple response*

Table 5: Respondents' Awareness regarding Meaning, Cause and Risk Factor and Symptoms of Ear Infections n=118.

Variable	Frequency	Percentage
Meaning of ear infections		
Correct response	59	50
Incorrect response	59	50
Age group of children often having ear infections		
Correct response	77	65.3
Incorrect response	41	34.7
Most common cause of ear infections in children		
Correct response	29	24.6
Incorrect response	89	75.4
Factor increasing the incidence of ear infections		
Correct response	20	16.9
Incorrect response	98	83.1
Most common risk factor of ear infections		
Correct response	70	59.3
Incorrect response	48	40.7
General Symptom of Ear infections		
Correct response	71	60.2
Incorrect response	47	39.8
Specific Symptom of Ear Infections		
Correct response	69	58.5
Incorrect response	49	41.5
Behavioral changes seen in school children		
Correct response	42	35.6
Incorrect response	76	64.4

Table 5 represents the respondents' awareness regarding the meaning, cause, risk factor and symptom of ear infections.

Table 6: Respondents' Awareness regarding the Management and Prevention of Ear Infections n=118.

Variables	Frequency	Percentage
Management of ear pain at home		
Correct response	49	41.5
Incorrect response	69	58.5
Management of severe ear infections		
Correct response	82	69.5
Incorrect response	36	30.5
Preventive measure of ear infections		
Correct response	43	36.4
Incorrect response	75	63.6
Mothers' Position during breastfeeding to prevent ear infections		
Correct response	82	69.5
Incorrect response	36	30.5
Babys' Position during breastfeeding to prevent ear infections		
Correct response	58	49.2
Incorrect response	60	50.8
Measure taken while bathing a child to prevent ear infections		
Correct response	10	8.5
Incorrect response	108	91.5

Table 6 shows the respondents' awareness regarding the management and prevention of ear infections.

Table 7: Respondents' Awareness regarding Complications of Ear Infections n=118.

Variables	Frequency	Percentage
Most Prevalent Complication Of ear infections		
Correct response	81	68.6
Incorrect response	37	31.4
Serious Complication of Ear Infections		
Correct response	14	11.9
Incorrect response	104	88.1
Problem seen in children due to recurrent ear infection		
Correct response	42	35.6
Incorrect response	76	64.4

Table 7 shows respondents' awareness regarding the complications of ear infections.

Table 8: Respondents' Level of Awareness regarding Ear Infections n=118.

Level of Awareness	Frequency	Percentage
Aware (≥50%)	62	52.5
Unaware (<50%)	56	47.5
Total	118	100

Median=8: IQR=($Q_3 - Q_1$ *= 10-6=4), Min=1,Max=16*

Table 8 shows that more than half of the respondents 52.5% were aware about ear infections and 47.5% were unaware about ear infections.

Table 9: Association between Respondents' Level of Awareness regarding Ear Infections and Selected Variables n=118.

	Level of awareness			
Variables	**Aware n (%)**	**Unaware n (%)**	**χ2**	***P*-value**
Age in Years				
≤ 26	32(48.5)	34(51.5)		
>26	30(57.7)	22(42.3)	0.989	0.320
Ethnicity				
Brahmin/Chhetri	40(64.5)	22(35.5)		
Others	22(39.3)	34(60.7)	7.512	0.006*
Religion				
Hindu	59(58.4)	42(41.6)		
Buddhist	3(17.6)	14(82.4)	9.699	0.002*
Place of Living				
Gaupalika	10(45.5)	12(54.5)		
Nagarpalika	52(54.2)	44(45.8)	0.545	0.460
Occupation				
Homemaker	44(51.2)	42(48.8)		
Working	18(56.2)	14(43.8)	0.242	0.623
Number of Children				
1	35(56.5)	27(43.5)		
2	21(47.7)	23(52.3)		
3	6(50)	6(50)	0.820	0.664
Husbands' Occupation				
Service holder	26(57.8)	19(42.2)		
Others	36(49.3)	37(50.7)	0.800	0.371
Respondents' child previous history of ear infections				
Yes	19(79.3)	5(20.8)		
No	43(45.7)	51(54.3)	8.565	0.003*
Availability of Health Services				
Yes	58(51.8)	54(48.2)		
No	4(66.7)	2(33.3)	0.506	0.682f
Accessibility Of Health Services				
Yes	55(53.4)	48(46.6)		
No	7(46.7)	8(53.3)	0.238	0.626

* Significant level<0.05, f fisher exact test

Table 9 shows that level of awareness regarding ear infections was statistically significant with the ethnicity of the respondent at (p= 0.006) and religion at (p= 0.002) and previous experience with ear infections at (p= 0.003).

DISCUSSION

The findings of the study revealed that more than half i.e. 52.5% respondents were aware about ear infections and 47.5% were unaware about ear infections. Whereas the study conducted by Alatabani, Alrashed and khalil, (2018) revealed that 29.4% had good knowledge about ear infections and 70.6% had poor knowledge about otitis media. Regarding the cause of ear infections in children, 24.6% respondents were aware that frequent upper respiratory tract is the most common cause of ear infections in children and 16.9% respondents were aware about child exposure to cigarette smoke can contribute to ear infections. It means majority of the respondents were unaware about the cause of ear infections. Whereas, the study conducted by Hammer et al., (2018) revealed that 26.10% were aware about child exposure to smoke can contribute to ear infections. Regarding the preventive measure of ear infections, 36.4% were aware that completing immunization helps to prevent ear infections. Majority of the respondents i.e. 91.5% respondents were unaware that keeping cotton balls with vaseline in ear can help to prevent ear infections. Whereas, the study conducted by Mukara, Waiswa, Lilford and Tucci (2017) which revealed that 67.4% were knowledgeable about prevention of ear infections. Regarding the complications of ear infections, only 11.9% respondents were aware that meningitis can be the serious complications of ear infections and 35.6% respondents were aware that speech and language developmental delay can be seen in children with recurrent ear infections. This indicates that majority of the respondents were unaware about the complications of ear infections. In contrast to this study, a study conducted by Mukara, Waiswa, Lilford and Tucci (2017) revealed that 97.4% respondents were knowledgeable about the complications of ear infections. The current study shows that there is association between the ethnicity, religion and respondents' children previous history of ear infections and the level of awareness of the mother. This finding is in contrast to the study conducted by Alatabani, Alrashed and Khalil, (2018) which revealed that none of the factors were significantly associated with mothers' knowledge regarding childhood otitis media.

CONCLUSION

Based on the findings of this study, it is concluded that more than half of the respondents were aware about ear infections. Mothers tend to lack awareness on modifiable cause of ear infections, factor increasing the incidence of ear infections, management, prevention and complications of ear infections. Mothers whose child had previous history of ear infections were more aware about the ear infections as compared to others. Attention needs to be paid more on intensive planning of health care educational programme for mothers regarding the meaning, causes, risk factors, management, prevention and complications of ear infections.

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