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Original article

Knowledge and practice of management of acute respiratory infection among mothers of under five years children in rural Nepal

D. Acharya[a,*], U.C. Ghimire[b], S. Gautam[a]

[a]*Department of Public Health, Purbanchal University,Sanjeevani College of Medical Science, Butwal, Rupandehi, Nepal.*

[b]*Department Public Health, Rambhadevi College of Medical Science, Shankarnagar-9, Rupandehi, Nepal.*

*Corresponding author ; Department of Public Health, Purbanchal University,Sanjeevani College of Medical Science, Butwal, Rupandehi, Nepal.

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ABSTRACT

Acute respiratory infections (ARIs) accounts for nearly one-fifth of childhood deaths worldwide, with approximately two million children under five dying each year. ARI in Nepal continues to be one of the major causes of childhood morbidity and mortality. A community based cross-sectional study was conducted to identify the knowledge and practices of ARI case management in rural community people. This was community based cross sectional study carried out in Bacchauli Village Development Committee (VDC) of Chitwan District of Nepal. A total of 132 mothers were interviewed with pre-tested, semi-structured interview schedule in the study using proportionate random sampling technique. For collecting data, selected households were visited by 22 June to 30 July 2011. Data were analyzed using SPSS version 18. More than two fifth (41%) of study the mothers were 20 to 24 years-old age group and most (90.9%) of them were housewives. Almost all (94%) study population had known about ARI, and they reported as ARI when chill coughs (78%), followed by running nose (71%) and sore throat (39%). Most (90%) of them reported pneumonia as a serious disease and only 48% had knowledge about its sign of seriousness. Most of mothers(90%)reported that they provided supportive treatment at home while only 7% reported that they provided modern medicines

by themselves and commonly used supportive treatment was Tulasi leaf (ocimum tenuiflorum). Majority (56%) of mothers take their child nearby health post for treatment and (26%) visit private nursing home. The mothers of Tharu community lacks knowledge on symptoms of severity of ARI, its management and timely seeking health care. This study suggests that community based awareness program should be conducted on ARI.

1. Introduction

Acute Respiratory Infection (ARI) is an acute infection of any part of the respiratory tract and related structures including paranasal sinuses, middle ear and pleural cavity (Pore et al., 2010). Acute respiratory infections are the leading cause of death in children in developing countries. About 13 million children under five years of age die every year in the world; 95% of them in developing countries (Denny et al., 1986; Prajapati et al., 2012).

In an average, children below five years of age suffer about four to five episodes of ARI per child per year (Ministry of Health and Population, 2010). The Ministry of Health and Population (MOHP) of Nepal recognizes ARI as one of the major public health problem in Nepal among under five years children (Ministry of Health and Population, 2010). It is one of the top ten disease in Nepal and causes about 45,000 deaths annually in children under five years (Holloway et al., 2009).

Control of diarrhoeal diseases and respiratory infections in Nepal started during the 1980s. More recently, Nepal developed innovations including a community-based programme for the control of ARI and diarrhoeal diseases (Ghimire et al., 2010). The National Control of ARI Program is an integral part of Primary Health Care (PHC) and accorded high priority by MOHP. The program focuses on children of under five years because the majority of deaths in this age group are ARI related. The program recognizes the important role of mother and other caretaker in identifying type and severity of ARI and appropriate management including the need of home care and need for timely referral to health facilities Ministry of Health and Population, 2010). Identification of modifiable risk factors of ARI may help in reducing the burden of disease (Goel et al., 2012).

ARI is often inadequately treated in rural Nepal. Children under five years with severe ARI are under-treated and take antimicrobials for mild ARI (Holloway et al., 2009). The experience in Nepal has shown that community members with minimal prior education can be trained and engaged in their own communities to scale up safe and effective interventions (Ghimire et al., 2010). A community based cross-sectional study was conducted to assess the knowledge and practice of management of ARI among mothers having under five years children in Tharu community of chitwan district of Nepal.

2. Materials and methods

This was community based cross-sectional study carried out in Bacchauli Village Development Committee (VDC) of Chitwan District situated in Central Development Region of Nepal. A sample of 132 of mothers having under five years children was determined on the basis of anticipated proportion of mothers having under five years children (10%) = 0.10 (under five years children population vs. total population (59198/564471) of Chitwan District of Nepal obtained from the District Health Profile of the same District [8]. Respondents were selected using proportionate random sampling technique. Data were collected by enumerators using pre-tested, standardized and semi-structured interview schedule from 22June to 30 July 2011. Respondents were fully informed and verbal informed consent was taken before data collection and privacy and confidentiality were maintained. Data were analyzed using Statistical Package for Social Sciences (SPSS) version 18 for windows.

3. Results

More than two fifth (41%) of the study population was 20-24 years-old age group, most of them (90%) were housewives. The main income source of most (84%) of study population was agriculture. Only (7%) of mothers had higher education and two third (66%) of the study population had either lower secondary or secondary level of education, only 11% percent of the respondents had primary level of education and 9% were illiterate. Most (93%) of the study population had obtained information on ARI and Majority of them (65%) reported that the school teacher of their community was the source of information on ARI.

The study population reported one or more sign and symptoms of ARI and pneumonia. More than 3/4th (78%) of the mothers reported cough as the sign and symptoms of ARI and pneumonia followed by running nose (71%), Two third (66%) reported fever, almost half (49%) fast breathing, sore throat and chest indrawing by 39%, stridor by 29%, dyspnoea by 12%, ear discharge and red eye by 2% each.

Most (90%) of the mothers reported pneumonia as serious disease. Almost half (49%) of the mothers were known about seriousness of Pneumonia. Out of mothers who knew about sign of seriousness of pneumonia- fast breathing(78%), chest indrawing(72%) , abnormal sleepy(50%), refuse to feed(39%), high fever(78%), and unable to cry(33%) as serious sign of pneumonia.

Table 1
Personal Profile of the Respondents

Characteristics	Frequency	Percentage
Age group (N=132)		
<20 years	18	14
20-24 years	54	41
24-28years	36	27
>28years	24	18
Occupation (N=132)		
Service	6	5
Housewife	120	90
Business	6	5
Main income source of family (N=132)		
Agriculture	111	84
Service	12	9
Business	9	7
Educational Status of Study population (n=132)		
Illiterate	12	9
Informal education	9	7
Primary	15	11
Lower Secondary	39	30
Secondary	48	36
Higher Education	9	7
Obtained information on ARI (N=132)		
Yes	123	93
No	9	7
Source of Information (N=123)		
Radio/ Newspaper	6	5
Health Worker	36	30
School Health Teacher	81	65

Almost all (95%) of mothers reported that they provided supportive home remedies as home treatment of ARI while (7%) reported self-medication. Various substances used as home remedy were tulasi leaf (54%),honey with ginger(18%), saline water gargle(32%) and sugar tea(7%) and Majority of the respondents(65%) reported that children were improved from home remedies and 35% required to visit health centre. Majority (58%) mothers prefer nearby health post for treatment while 26% prefer private nursing homes, 10% preferred government hospital and 8% preferred to Female Community Health Volunteers(FCHVs).

Table 2
Knowledge on Signs and symptoms of ARI and Pneumonia*.

response	Frequency	Percentage
Sign and symptoms of ARI and pneumonia (N=123)		
Cough	96	78
Runny Nose	87	71
Fever	81	66
Fast breathing	60	49
Sore throat	48	39
Chest in-drawing	48	39
Stridor	36	29
Dyspnoea	15	12
Ear discharge	3	2
Red Eye	3	2

*multiple response

Table 3
Knowledge about seriousness of disease.

Response	Frequency	Percentage
Is pneumonia a serious disease (N=123)		
Yes	111	90
No	6	5
Sometime	4	3
Don't know	2	2
knowledge on Sign of seriousness of pneumonia (N=111)		
Yes	54	49
No	57	51
Signs of seriousness of pneumonia (N=54)*		
Fast breathing	42	78
Chest indrawing	39	72
Abnormal Sleepy	27	50
Refuse to feed, drink, eat	21	39
High Fever	42	78
Unable to cry	18	33

*multiple response

4. Discussion

The government of Nepal recognizes ARI as major public health problem and control of ARI is a priority program of Government of Nepal which recognizes the important role of mother and other caretaker in identifying type and severity of ARI and appropriate management including the need of home care and need for timely referral to health facilities (Ministry of Health and Population, 2010).

Our study found more than two fifth of the mothers were 20-24 year-old age group followed by 27% of 24-28 year-old age group. This study found 73% of mothers had at least secondary level of education and 9% were illiterate. On contrary this, a similar study conducted in India found that 50% of mothers were illiterate.9 In our study, most (90%) of women were housewives and 5% were in service which is different with the study done in India which showed 66.7% were housewives, followed by 19.5% were laborers (Debasism and Ahemed, 2003).This suggests that despite of getting good education, Nepalese women were not engaged in outside works.

A study at Nakhon Pathom General Hospital, Thailand found around 66% of the mothers had fair knowledge about pneumonia., it was found that only a few mothers answered all the questions correctly in terms of simple signs and

symptoms of pneumonia (7%) and around 21% of the mothers answered all the questions correctly in terms of cause and factors related with pneumonia. Around 81% of the mothers had good perception and only a small number of mothers gave correct answers for all the statements, which was only 7% of all the mothers (Siswanto et al., 2007). In contrast, this study found that 93% of mothers had information about ARI and pneumonia and most of them knew some or more sign and symptoms of ARI and pneumonia.

Table 4
Treatment practice at home.

Practices	Frequency	Percentage
Practice of home treatment (N=93)		
Supportive with home remedies	84	90%
medicines without consultation	6	7%
Others (Ayurvedic)	3	3%
Kinds of home remedies given during ARI (N=84)		
Sugar tea	6	7%
Tulasi Leaf	45	54%
Honey with ginger and water	15	18%
Saline water gargle	27	32%
Outcome of home treatment (N=93)		
Improved		65%
Not improved		35%
Preferred treatment Place (N=132)		
Hospital	13	10%
Private Nursing Home	34	26%
Health Post	77	58%
FCHVs	8	6%

Another study of Ghana revealed that when the mothers exhibited an understanding of symptoms of mild and severe ARI and a substantial number of mother indicated that they would delay accessing a health care facility in the presence of the following symptoms of respiratory distress, dyspnoea (11.2%); tachypnoea (18.9%); chest retraction (21.7%); cough, fever and anorexia (30.0%); and cough, fever and lethargy (57.3%) (Denno et al., 1994). On contrary to this study, our study found that Nepalese mothers reported that they understood-cough(78%), running nose(71%), fever(66%) , fast breathing(49%) chest indrawing(39%), stridor(29%), dyspnoea(12%), and ear discharge and red eye(10%) as sign and symptom of ARI. This could be due the higher level of education of our study population.

In our study, we found that 49% of the respondents considered ARI as serious disease. The finding of our study is supported by a similar study conducted in Civil Hospital Mithi Tharparkar Desert which found 72% mothers had knowledge about ARI, could recognize it but 28% had no knowledge about ARI and 56% mothers took ARI as a serious disease while 44% did not (Kumar et al., 2012).

This study found that 90% of the mothers reported pneumonia as serious disease while 59% knew at least one sign of seriousness and 58% visit nearby health post for treatment. Another study carried out in Ahmadabad India found that 35.2% of mothers preferred private set up as a place of choice for treatment, 40.8% of mothers rated diseases as serious (Prajapati et al., 2012)

Regarding the preference for type of treatment, a study in conducted in India showed that 70% of mothers preferred allopathic treatment as a choice of type of treatment. 21.5% of mothers preferred household remedies as a choice of treatment. Allopathic treatment choice was same in both urban and rural area, but Homeopathic treatment was more preferred by urban people (12%) as compared to rural area (5%) (Debasism and Ahemed, 2013). Our study varied with this study since we found that 90% mothers gave home remedies to children with mild ARI. Home remedies reported were sugar tea (7%), Tulasi Leaf (54%) honey with ginger (18%) and saline water gargle 32%.

5. Conclusion

The mothers of Tharu community lacks knowledge on symptoms of severity of ARI, its management and timely seeking health care. This study suggests that community based awareness program should be conducted on ARI so that ARI would not be a threat to less than five years of children of Tharu community.

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References

Debasism B., Ahemed, T.A., 2013. Study of knowledge, attitude and practice among mothers towards acute respiratory infection in urban and rural communitiesof burdwan district, West Bengal, india. Rev. Progr., 1(8),1-6.

Denno, D.M., Bentsi-Enchill, A., Mock, C.N., Adelson, J.W., 1994. Maternal knowledge, attitude and practices regarding childhood acute respiratory infections in Kumasi, Ghana. Ann. Trop. Paediatr., 14 (4),293-301.

Denny, F.W., Loda, F.A., 1986. Acute respiratory infections are the leading cause of death in children in developing countries. Am. J. Trop. Med. Hyg., 35(1),1-2.

Ghimire, M., Pradhan, Y.V., Maskey, M.K., 2010. Community-based interventions for diarrhoeal diseases and acute respiratory infections in Nepal. Bull World Health Organ. 88(3),216–221. doi, 10.2471/BLT.09.065649 PM CID, PMC2828786

Goel, K., Ahmad, S., Agarwal, G., Goel, P., Kumar, V.A., 2012. Cross Sectional Study on Prevalence of Acute Respiratory Infections (ARI) in Under-Five Children of Meerut District, India. J. Community Med. Health. Educ., 2(9).

Holloway, K.A., Karkee, S.B., Tamang, A., Gurung, Y.B., Kafle, K.K., Pradhan, R., et al., 2009. Community intervention to promote rational treatment of acute respiratory infection in rural Nepal. Trop. Med. Int. Health., 14(1),101-10.

Kumar, R., Hashmi, A., Soomro, J.A., Ghouri, A., 2012. Knowledge Attitude and Practice about Acute Respiratory Infection among the Mothers of Under Five Children Attending Civil Hospital Mithi Tharparkar Desert. Primary Health Care. Open Access., 2 (1),1-3.

Ministry of Health and Population, 2010. Annual Report 2009/2010. Katmandu, Dep. Health Serv., Min. Health Popul.

Ministry of Health and Population, 2010. District Health Profile of Chitwan 2009/2010. Department of Health Services, Min. Health Popul.

Pore, P.D., Ghattargi, C.H., Rayate, M.V., 2010. Study of Risk Factors of Acute Respiratory Infection (ARI) in under fives in Solapur. Nati. J. Community Med.,1(2),64-7.

Prajapati, B., Talsania, N., Lala, M.K., Sonalia, K.N., 2012. A Study of Risk Factors of Acute Respiratory Tract Infection (ARI) of under Five Age Group in Urban and Rural Communities of Ahmedabad District, Gujarat. Health Line., 3 (1),16-20.

Prajapati, B.J., Talsania, N.J., Lala, M.K., Sonalia, K.N., 2012. Knowledge, Attitude and Practices of Mothers Regarding Acute Respiratory Infection (ARI) in Urban And Rural Communities of Ahmedabad District, Gujarat. NJIRM., 3(2),101-3.

Siswanto, E., bhuiyan, S.U., Chompikul, J., 2007. Knowledge and Perception of Pneumonai Disease among Mothers of Children under Five Years attending Nakhon Pathom General Hospital, Thailand. J. Publ. Health. Dev., 5(2),43-54.