Mothers' Perception of Fever Management in Children

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ABSTRACTS

Background: Fever is a common problem in childhood. Most febrile episodes are managed at home before consultation in a health facility. Caregivers' response to fever will depend on their perception of its cause and knowledge of its management. This study aimed to evaluate mothers' perceptions of fever and its management in childhood.

Methods: This was a descriptive hospital based study. It involved the distribution of 11 itemed questionnaires on fever and related questions to 151 mothers who brought their children to the Paediatrics outpatient clinic of University of Port Harcourt Teaching Hospital. Data was analyzed using descriptive statistics.

Results: A total of 151 mothers participated with age range 19 years to 54 years with mean of 31.4±5.7SD. One hundred and thirteen (74.8%) defined fever as hotness of the body. Commonest associated symptom with fever was loss of appetite (71.5%). Commonest identified cause of fever was malaria (71 (47%) mothers). 115 (76.2%) mothers measured their children's body temperature by touching their forehead, while 21 (13.9%) used thermometer. Commonest action taken when there was fever was to administer Paracetamol (107 (70.9%)). Commonest identified complication of fever was convulsion (86(67.7%)).

Conclusion: Knowledge of fever is good amongst mothers in Port Harcourt; however there is need to educate them on the use of thermometer and appropriate use of drugs.

Keywords: Mothers Perception; Fever; Children

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INTRODUCTION

Fever is defined as rectal temperature above 38° c, oral temperature above 37.8°c and axillary temperature above 37.4°c[1]. It could be a manifestation of infections and non-infectious diseases. It begins with the release of endogenous pyrogens into the circulation in response to the presence of various infectious toxins and other mediators. These endogenous pyrogens reach the anterior hypothalamus via the arterial blood supply and release arachidonic acid which is metabolised into prostaglandin E2 (PGE2) resulting in an elevation of the hypothalamic thermostat and hence elevation of the body temperature above normal[1].

Fever is a common childhood problem and is one of the commonest reasons parents bring their children for medical attention. It is estimated to be the primary complaint for as many as one third of all Paediatric consultations in general practice[2-3]. In the United States, febrile illness accounted for 20% of children seen in one Paediatric emergency department and 19% of visits to a sick child clinic[4]. Children in the age group of 3 to 36 months have approximately six febrile episodes per year, representing the highest incidence of fever during childhood[5]. Parents and caregivers see fever as a useful indicator of whether a child is seriously ill and commence treatment at home before presentation in the hospital[6]. This practice is common in Nigeria[7-8] and in other malaria endemic countries in Africa[9-10]. For instance, in a previous study in Nigeria, 85.7% of children were reportedly treated at home prior to consultation in a health facility[11]. In Sudan, only 10% of the children with suspected fever were seen at a health center, while the remaining 90% were treated at home with an antimalarial drugs[10]. Studies have shown that parents have many misconceptions, fears and limited skills regarding fever and its management.[2,4,12-13] These fears and misconceptions have been termed "fever phobia[2]. This study therefore aimed to evaluate the perception of parents living in Port Harcourt and its environs who visited the children outpatient clinic regarding fever and its management.

MATERIALS AND METHOD

This was a descriptive cross sectional hospital based study, carried out amongst mothers who brought their children to the Paediatrics outpatient clinic of the University of Port Harcourt Teaching Hospital between June to November 2010. The mothers who participated had at least one child less than 5years old. The Teaching Hospital is the only tertiary hospital in Rivers state, Nigeria in West Africa. It functions both as a general and tertiary hospital. It caters for patients within the state and serves as a referral centre for neighboring states.

The study involved the distribution of 11 itemed questionnaires to 151 mothers. Interviewers included the investigators as well as resident doctors in the department of Paediatrics who had been trained by the investigators. Questions asked covered: The definition of fever, how to know when a child had fever, how the participants measured their children's body temperature, home treatment of fever, and complications of fever. Data was

analyzed using SPSS version 17.0.

RESULTS

Socio-demographics

A total of 151 mothers participated in this study. Their ages ranged from 19 years to 54 years with mean of 31.4±5.7SD. One hundred (66.2%) of the mothers had tertiary education, 45 (29.8%) had secondary education, 5 (3.3%) had primary education and 1 (0.7%) had no formal education. Fifty nine (39.1%) participants were civil servants, 37 (24.5%) were unemployed, 41 (27.2%) were traders, 7 (4.6%) were fashion designers and 7 (4.6%) were undergraduates. Fifty eight (38.4%) mothers had one child each, 38 (25.2%) had two children, 29 (19.2%) had three, 18 (11.9%) had four, 3 (2%) had five, 4(2.6%) had six and 1 (0.7%) had eight children.

Perception of fever and associated symptoms.

One hundred and thirteen (74.8%) participants defined fever as hotness of the body, while 16(10.4) defined it as malaria (Table 1). One hundred and twenty one (80.2%) mothers knew that a child had fever when his/her body was hot, while 7(4.6%) believed fever is present when there is loss of appetite (Table II). The commonest identified symptom associated with fever was lack of appetite in 108(71.5%), while the least associated symptom was yellowness of the eyes 5(3.3%). Table III shows the others.

Perception of causes of fever and how body temperature was measured

Seventy one (47.0%) mothers believed fever is caused by malaria, while 32 (21.2%) believed it was caused by mosquito bite, the others are shown on Table IV. One hundred and fifteen (76.2%) mothers measured their children's body temperature by touching their forehead, 21(13.9%) used thermometers, while 15(9.9%) did not know how to measure a child's body temperature.

Action taken when a child had fever and perceived complications.

The two most common identified actions taken when a child has fever are to give Paracetamol (70.9%) and to tepid sponge (50.3%) Table V. One hundred and twenty seven (84.1%) mothers believed fever had complications, 17 (11.3%) believed it had no complications, while 7 (4.6%) did not know if there were complications. Of the 127 (84.1%) mothers who believed fever has complications, 86 (67.7%) believed it could cause convulsion, while 8 (6%) believed it could lead to death. The

Table 1: Mothers' Perception of fever

Perception	Frequencies	Percentages
Hot body	113	74.8
Malaria	16	10.4
Sickness	6	4.0
Abnormal body temperature	5	3.3
Cold in body	3	2.0
Loss of appetite	2	1.3
Headache	1	0.7
Weakness	1	0.7
Feeling unwell	1	0.7
Bitter mouth	1	0.7
Body pain	1	0.7
Restlessness	1	0.7
Total	**151**	**100**

Table II: Methods used to identify fever by the mothers.

Fever present when:	Frequencies	Percentages
Body is Hot	121	80.2
There is loss of appetite	7	4.6
Child is cold	4	2.6
Child is vomiting	3	2.0
Child is weak	3	2.0
Child is crying excessively	2	1.3
Child is coughing	2	1.3
child is breathing fast	2	1.3
Child has headache	2	1.3
Childs urine is yellow	2	1.3
Child is convulsing	1	0.7
Child is dreaming	1	0.7
Child is not playing well	1	0.7
Total	**151**	**100**

Table III: Symptoms associated with fever

Symptoms	Frequencies	Percentages
Loss of appetite	108	71.5
Lack of blood	78	51.7
Shivering	65	43.0
Headache	60	39.7
Vomiting	58	38.4
Pain in the throat	50	33.1
Passage of yellow urine	48	31.8
Catarrh	35	23.2
Cough	32	21.2
Weakness	20	13.2
Passage of watery stool	10	6.6
Excessive crying	8	5.3
Restlessness	7	4.6
Yellowness of the eyes	5	3.3

Note: n=151, n represents multiple responses

Table IV: Perception of causes of fever

Causes of fever	Frequencies	Percentage
Malaria	71	47.0
Mosquito bite	32	21.2
Infections	14	9.3
Dont know	14	9.3
Teething	8	5.3
Dirty environment	5	3.3
Cold	3	2.0
Bad water	2	1.3
Hot whether	2	1.3
Total	**151**	**100**

Table V: Action taken when a child has fever

Action	Frequencies	Percentages
Give paracetamol	107	70.9
Tepid sponge child	76	50.3
Remove clothing	22	14.6
Take child to hospital	13	8.6
Bath child with cold water	11	7.3
Give anti malarials	8	5.3
Take child to chemist	6	4.0
Give vitamin C	1	0.7

Table VI: Complications of fever

Complications	Frequencies	Percentages (%)
Convulsion	86	67.7
Death	8	6.0
Anaemia	7	5.5
Loss of appetite	4	3.1
Typhoid fever	4	3.1
Weight loss	3	2.4
Weakness	3	2.4
Catarrh	3	2.4
Brain damage	2	1.6
Diarrhoea	2	1.6
Yellow fever	2	1.6
No idea	2	1.6
Pneumonia	1	1.0

others are shown on Table VI.

DISCUSSION

Mothers in this study knew the correct definition of fever unlike what has been reported in previous studies done in Nigeria and Uganda[6-8, 14]. More than 70% of them also knew the correct recognition of fever in children, causes of fever and the symptoms associated with fever. This might be because a large percentage of them (96.0%) had formal education up to secondary level and beyond. Our findings however corroborate results of studies from Kuwait, Ethiopia, Mali and Nigeria[15-18]. The study also showed that 76.2% of the mothers measured their children's body temperature by a touch on their fore heads. This is similar to the findings of a study done in Kuwait[15]. This tactile temperature taking practice has been shown to be inaccurate with a high percentage of false-negative or false-positive fever determination[19]. Chaturvedi D[19] concluded that touch is not a valid screening test for fever. Measuring the temperature with thermometer is obviously the most accurate method of detecting fever,[19] but only 21 (13.9%) mothers actually used thermometers to measure their children's temperatures at home to detect fever. It has been recommended that caregivers be motivated to use a thermometer always to record fever[15].

It has been reported previously that in Mali[17] and Nigeria[6-8,18] mothers are used to treating their child's fever at home. This is similar to our finding of 76.9% children treated for fever at home prior to presentation in the hospital. It however contrasts with a study done in Ethiopia were majority of the respondents reportedly visited village based community health workers, public and private health facilities. Home management was only reported by 3% of the respondents[20]. Antimalarials (chloroquine and sulphadoxime/pyrimethamine) were the drugs used in home treatment of fever from previous studies[6-8], contrarily; paracetamol was the most commonly administered drug (70.9%) to the children in this study. Despite the fact that malaria (47%) was the commonest identified cause of fever, antimalarials (5.3%) were seldom used. This is also similar to some other studies[15,18]. The lack of use of anti malarial by majority of the mothers in this study was not explored but it may be due to the high cost of the artemesinin based drug combination in the open market. Paracetamol is the most frequently used antipyretic in Paediatric practice. Since it is readily available accessible and cheap it was not surprising as it was the most frequently used drug by the mothers. In addition to administering paracetamol to majority of the children with fever by their mothers, other methods of reducing fever, such as reducing the clothing and exposing the child to air, tepid sponging, and cold bath, were well practiced by the mothers in this study. Similar reports had been made in various studies on fever management in children in Nigeria[6-8, 18].

This present study as well as previous studies [15,18] showed that convulsion was the most commonly identified complication of fever.

CONCLUSION AND RECOMMENDATION

There was good knowledge of fever and its management amongst the participants in this study; however there is need to educate the mothers on proper use of anti malaria drugs in febrile children and on good health seeking behaviours.

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