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Mothers' Action and Preferences of Treatment of Febrile Illnesses among under- five -year- old Children in Osun State.

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Abstract
This study examined the maternal actions and preferences of treatment of febrile illnesses among the under- five-year old children. Purposive sampling method was used to select 150 respondent comprisingof mothers who brought their children to seven selected health institutions in Osun State. An interview guide was used in the collection of data. The data were analyzed using both descriptive and inferential statistics.Results of the study showed that fever was the main reason for taking action and 122 (81%) had taken first level home care before going to the clinic. As the first line of action 89 (59%) bought drugs from the chemists while only 29(19%) displayed correct knowledge of drug schedules and doses. Respondents' preferences increase from 33% as first line of action to 95% as second line of action and 99.3% as the third line of action. It was found that those respondents that had no formal education accounts for more than half (8.5%) of those that used herbs(14,9%). Using Pearson product moment correlation analysis, educational status of mothers was also significantly associated with initial treatment of febrile illnesses (2 39.46 P <0.01). Summarily, these findings showed high prevalence of home treatment and that chemists were the main source of obtaining drugs.Thus, the study concluded that there is a need for training of mothers on treatment of febrile illnesses especially use of drugs, and the chemists and patent medicine vendors should be exposed to periodical trainings especially on essential drugs for treating febrile illnesses in under five- year -old children.

INTRODUCTION

Fever is one of the most common symptoms of major childhood diseases, viral, bacterial or parasitic infections in young Children.[1] It has been reported that many of the physicians diagnosis of febrile conditions in children include pneumonia, diarrhoea, malaria, and other medical conditions such as otitis media, anemia and acute eye problems present with fever.[2,3]

Black, Morris and Bryce showed the magnitude of the consequences of the extent of problem associated with febrile illnesses in children.[4] They reported that more than 4.4 million children die every year in Sub –Saharan African where malaria and pneumonia are leading causes of deaths. These estimates clearly show high mortality rate that may be associated with childhood febrile illnesses. This has to be looked into not only as an appreciation of the right of the child to life but for the fact that it is one of millennium development goals to reduce the childhood mortality.

In addition, several authors have reported that "fever" is identified as a significant indicator of illness in children among parents and care providers.[3,5,6] This implies that fever dictates the needs of treatment and what mothers do.

Concerning, the treatment of febrile illnesses , studies have shown that home treatment is a common practice among caregivers of under-five-year old children .[7 8,9] This finding affirms that caregivers of children play active role in the health care of these children. Thus the challenge is to work on this natural tendency for self-treatment, as a means of ensuring early recognition of illness and a safe, prompt and appropriate action. Further studies on home health care shows that behaviour in treatment, decisions making and prevention of childhood illnesses are influenced by some factors such as social, cultural and intra-household relations.[10,11] By implication, the adequacy of care provided for the children is a reflection of capability of taking control of the difficulties associated with complexity and dynamism of these factors.

In addition, earlier studies on home health care had pointed out that women assume the burden of the care.[11,12] The health beliefs of these women can influence the outcome of febrile illnesses in under fives such that action taken results in good or poor outcomes. Therefore this study was aimed at examining the strategies adopted by mothers in coping with febrile illnesses in under-five-year- old children.

Objectives

The objectives are to;

Assess the socio- demographic characteristics of the mothers.

Determine the methods used by the mothers in detecting and treating febrile illnesses among under- fives.

Assess the preferences of mothers on choice of treatment for febrile illnesses among under –five – year-old-year – old children.

Limitations

There was a challenge of keeping the sick children calm while mothers are being interviewed. This factor contributed to the number of participants that are interviewed per day.

Hypothesis

There is no significant relationship between mothers' educational status and their first line action in managing febrile illnesses among under-five-year-old child.

Methods

The study employed a descriptive design which aimed at examining the mothers' actions and preferences of treatment of febrile illnesses in under-five-year- old children in Osun State.

Setting of study

The study area covered Ile-Ife and Ilesa in Osun State. These two towns have both State and Federal health institutions, comprehensive health centers and hospitals where sample for the study was drawn. These health institutions spread over the two local governments of each of the two towns.

Ile-Ife as a town has two local governments namely: Ife Central and Ife East local governments. Ife Central local government has two federal health institutions namely: Urban Comprehensive Health Centre and Ife Hospital unit, and a state health institution, State Comprehensive Health Centre, Sabo. There are two state general hospitals located at Okeogbo, and Modakeke, Ife East Local Government.

Ilesa also has two local governments namely: Ilesa East and Ilesa West local governments. Ilesa West local government has a federal health institution; a comprehensive health centre named Multipurpose Unit, Obafemi Awolowo University Teaching Hospitals Complex and State General hospital, Ilesa. There are two general hospitals in Ilesa East Local Governments namely: Wesley Guild Hospital, Obafemi Awolowo University Teaching Hospitals Complex, (a Federal health institution) and state General hospital, Iyemogun. This makes a total of nine (9) Federal and state health facilities in the two towns.

Study Population

The populations for this study are mothers of under five-year-old-children who brought in their children for care in seven selected health institutions in Osun State.

Seven health institutions were selected from the nine (9) Comprehensive health centers and General hospitals of the Federal and State governments in Ile-Ife and IIesa. These health facilities were expected to have substantial materials and human resources to discharge their services. Therefore, a pre-visit was made to all the nine (9) health institutions and seven health institutions were selected based on the following criteria:-

(i) They have personnel and facilities for attending to sick children;
(ii) They are strategically located.

The selected health institutions found suitable for the study are namely:

1. Obafemi Awolowo University Teaching Hospital complex, Ife Hospital Unit, Ile-Ife
2. Urban Comprehensive Health Centre, OAUTHC, Ile-Ife
3. Osun State Hospital, Oke Ogbo, Ile-Ife
4. Osun State Comprehensive Health Centre, Sabo, Ile-Ife
5. Osun State Hospital, Ilesa
6. Multipurpose Unit, O.A.U.T.H.C., Ilesa
7. Wesley Guild Hospital, Ilesa.

These health institutions were chosen because they have substantial materials and human resources with departments that are managed by professionals, thereby meet the above stated criteria. These units also serve as referral centers for other primary health care units from the two towns and other neighbouring towns

Sampling Technique and Sample Size

A sample of 150 mothers of under-five-year-old children was considered for the study. This was calculated using sample size formula for single proportion. Purposive sampling technique was employed. Mothers of the under-five-year-old children who reported at the selected health institution were selected based on the following criteria:

(i) The child must be febrile ($\geq 38.5^{O}C$);
(ii) The child must be brought in by the mother

Instrument for Data Collection

A self developed instrument was used by the investigator to collect data (an interview guide).The interview guide contains both close and open-ended questions. The open-ended questions allow for free expression of opinions and positions. The guide consists of Section A that gives demographic information and Section B that includes questions on mothers' practices and preference of treatment for febrile illnesses .The mothers had choice to pick out of the two options yes or no while open ended questions allowed for free expression of opinions and positions.

Ethical Consideration

Permission to proceed was obtained from various health facilities. This was done by sending out letter for permission to the authorities of the various selected health facilities. This was followed by personal visit by the researcher to the authorities of these facilities. After the permission, the date for data collection was fixed.

The interview guide was used to gather information after the verbal informed consent has been obtained from the subjects. All interview guides were kept highly confidentially.

Data Collection

One hundred and fifty mothers of under-five-year-old children were interviewed at the seven selected health institutions after obtaining informed consent.

Each health institution was visited during the period of 8.00 a.m. to 4.00 p.m. This period is found to be the most appropriate, as discovered during the pre-visit made to all selected health institutions. It was then found that there was high attendance of sick children presenting with fever during the morning period and all departments were opened for services.

Data were gathered within a fourteen-week period. Two weeks were spent in each health facility for both interview and follow up of selected mothers.

Data Analysis

Quantitative data generated from the interview guide was coded and entered into the computer using EPI info and Statistical Package for Social Sciences (SPSS) software version 11.0 was used for both descriptive and inferential statistical analysis

Results.

Table 1; **Socio- demographic characteristics of mothers of under five children with febrile illnesses**

Variables	**Frequency (N = 150)**	**%**
Age in Years		
≤ 18	4	3
19 – 28	91	61
29 – 38	40	26
39 – 48	15	10
Marital Status		
Single	6	4.0
Married	135	90.0
Divorced/Separated/Widowed	9	6.0
Educational Status		
No Formal Education	28	19
Primary Education	34	23
Secondary Education	69	46
Tertiary Education	19	12
Ethnicity		
Yoruba	129	86
Others	21	14
Religion		
Christianity	99	66.0
Islam	51	34.0
Occupation		
Civil Servants	42	28.0
Traders	75	50.0
Artisans	19	13
Full time Housewives	14	9.0
Average Income per Month		
Low (Less/equal ₦7, 100 – ₦10, 065.68)	144	96.0
Middle (₦10, 065.69 – ₦14, 648.34)	4	25.0
High (₦14, 648.35 – ₦ 39,099.26 & above)	2	1
Family Type of The Married	**(N = 135)**	
Monogamy	114	84.0
Polygamy	21	16.0
Total	135	100.0
Mother's Parity		
1 – 2	87	58.0
3 – 4	45	30.0
5 and above	18	12.0

Total emolument according to 12.5% Harmonized public (HAPSS) for Osun State public service.

The socio-demographic characteristics of the mothers are shown in table1 and majority of the mothers (61%) were in the young adulthood age while only 4 (3%) were adolescents (16 to 18 years). The marital profile indicates that 135 (90.0%) were married and 114 (84.0%) of the married were in the monogamous setting. The educational status shows that 69 (46.0%) had secondary education while only 19 (12%) had tertiary education. As regards ethnic affiliation majority of the respondents 129 (86.0%) were Yoruba. Sixty-six percent of the respondents were Christians, and the rest 55 (34.0%) were Muslims. The occupational profile shows that 75 (50.0%) of the population were traders, 42 (28%) were civil servants, 19 (13%) were artisans and 14 (9%) were full time housewives. The majority of the respondents144 (96.0%) were low income earners (₦7, 100 – ₦10, 065.68) while 3.0% were in the category of middle income earning level (₦10, 065.69 – ₦14, 684.34 and only 6 (4.0%) were high income

Table 2; Distribution of Respondents by Method of Detecting and Managing Febrile Illnesses among Under Fives

Variables	Respondents' Action	
Methods of Detecting febrile Illness (N = 150)	**Frequency**	**%**
Taken verbal complaints or non-verbal cues from the child by the mother	59	39
Mothers' touched the child's body	76	51
Mothers used thermometers	15	10.0
First sign & Symptoms Observed by Mothers for taking proper action		
Vomiting	27	18
Shivering and Sweating	9	6
Loss of Appetite	25	17
General Body Weakness	10	7
Rapid/Difficult Breathing	8	5
Running Nose	20	13
Stomach Ache	2	1
Red Eye	1	1
Joint Pains	3	2
Ear Pain/Discharge	4	3
High body Temperature	41	27
First Action Taken: – Gave home management	135	90
Observed the child for a period of time	15	10
Method of Management Employed		
Gave home herbs alone	14	9
Gave orthodox drugs alone	53	36
Gave orthodox drugs and herbs	11	7
Fanned and tepid sponged	36	24
Combined cooling measures and drugs	21	14
Observed the child for a period of time.	15	10
Duration of Illness Prior Presentation		
Within 24 hours	55	37
2 – 4 days	64	42
5 – 7 days	16	11
8 – 10 days	6	4
11 - 13 days	7	5
23 – 23days	2	1

As table 2 shows the commonest methods employed by the respondents in detection of febrile illnesses in their sick children was touching the child's body(76,51%). Fifty-nine (39%) of the respondents took verbal complaints or non-verbal cues from their children while only 15 (10%) used thermometers. The duration of illness prior presentation to the clinic ranged between 1 and 23 days and only 55(37%)of the children reported at the clinic within 24 hours. Regarding the first symptoms and signs observed in the child, which prompted mothers to treat the child, high body temperature accounted for 41 (27%), vomiting accounted for 27 (18%) and loss of appetite accounted for 25 (17%). As first action 135 (90%) of the respondents gave home care out of which 53 (36%) gave orthodox drugs alone and 11(7%) combined orthodox drugs and herbs. Some respondents 36 (24%) applied cooling measures while 9% and 14% gave home herbs only and combined cooling measure with orthodox drugs respectively.

Table 3; Mothers` preference of treatment

Options of Treatment	Respondents' Choice of Treatment (N = 150)					
	1st Action Taken		2nd Action Taken		3rd Action Taken	
Care Providers Contacted During the Child's Illness at the time of study	Frequency	%	Frequency	%	Frequency	%
Chemist	89	60	5	3.0	2	1.3
Private Clinic	8	5	11	7	6	4.0
Government Hospital	2	1	123	82.0	141	94.0
Village/Community Health Worker	5	3	4	3	-	-
Indigenous Healers	-	-	2	1.0	-	-
Faith Healers			3	2.0	1	0.7
Parents			2.	1.0	-	-
None	46	31	-	-	-	-

Most of the respondents (89 ,60%) consulted and bought drugs from the chemists as were used remarkably as second and third lines of action by respondents. That is, 123 (82%) of the respondents and 141 (94%) respectively. Indigenous healers and faith healers were mostly contacted as 2nd line of action while faith healers also got used as third line (Table3).

Table 4; Relationship between the mothers' educational status and initial treatment of febrile illnesses among under-five-year-old children.

Mothers' educational status	Initial treatment of febrile illnesses											
	Used herbs		Used orthodox drugs		Cooling measures		Cooling measures & orthodox drugs		Others			
	N	%	N	%	N	%	N	%	N	%	N	%
No formal Education	8	5%	5	3%	6	4%	6	4%	3	2%	28	19%
Primary Education	-	-	8	5.7%	9	6%	7	4.5%	12	8%	34	23%
Secondary Education	5	3%	29	20%	21	14%	7	4.5%	7	4.5%	69	46%
Tertiary Education	1	1%	11	7.3%	-	-	1	1%	4	2.5%	19	12%
Total	14	9%	53	36%	36	24%	21	14%	26	17%	150	100%

* Others (combined either orthodox drugs with herbs or observed the child for a period of time)

$X^2 = 39.46$ 12df P 0.01

The use of herbs only as the initial treatment for the sick under- five -year old was recorded as 8 (5%) out of 28(19%) of the mothers who had no formal education followed by 5(3%) of the respondents, among mothers with secondary education and only one respondent who had tertiary education (table 4). Although out of 34(23%) of the respondents who had primary education none of them used herbs only, but, 12(8%) either combined orthodox drugs with herbs or observed the child for a period of time (others). Among 69(46%) of the respondents who had secondary education 29(20%) used orthodox drugs and 21(14%) used cooling measures. Eleven (7.3%) out of the 19(12%) respondents who had tertiary education used orthodox drugs, and none used cooling measures.

The table also shows that there is a significant association between educational status and initial treatment of febrile illnesses. This is because the observed probability associated with X^2 value of 39.46 is small ($P<0.01$). This means that the observed differential in initial treatment of febrile illnesses according to mothers' educational status is statistically significant.

Discussion

From the findings of this study there were very few 4(3%) of mothers who were less than 18 years (Table 1). This suggests that mother of the sick children were not under aged. Although the study reflects the evidence that majority of the respondents had some education (primary and secondary education) only 19 (13%) had tertiary

education. These findings coupled with the result that 28 (19%) of the respondents were without any form of formal education, suggest urgent attention for women education and seem to re-echo the relevance and urgent attention to two of the millennium development goals namely achieve universal primary education and promote gender equality and empower women.[13]

Reports from various studies have established the use of touch or palpation among mothers in detecting elevated temperature [14,15] The findings of this study support these reports, in which more than half of the mothers used touch in detecting febrile illness in their sick children. Concerning the use of thermometer, the finding of this study that only few 15 (10%) had thermometers corroborated the report that 21 percent of 169 mothers had thermometers in a study carried out in Brazil.[16]

The findings from this study showed that about a third of respondents took febrile children to hospital within 24 hours (see table 2). This is contrary to the findings by Olaogun et al who found that only one respondent in their study reported to the clinic within 24 hours of the child been sick.[9]

High body temperature was the mostly mentioned sign observed by mothers in their sick children which prompted them to take action. This finding affirms the reports from various studies that fever is a good sign for mothers or parents to seek for treatment of childhood febrile illnesses.[5, 7]. Findings of this study affirms the several reports of the high prevalence of home treatment for under fives with febrile illnesses.[9, 18, 19]

Reports of study carried out in Uganda stated that mothers gave modern drugs as action taken before coming to health facility. In Nigeria, previous reports showed that parents used more of herbs than modern drugs.[14]

However, the findings of this study corroborate the finding that the use of herbs was unpopular.[19]. This finding seems to reflect a slight change in the nature of home treatment employed in treatment of childhood febrile illnesses in Nigeria. Cooling measures and use of orthodox drugs were two main practices of home management and chemists were the main source of orthodox drugs. The practices of home management have to be exploited so that childhood febrile illnesses could be controlled through appropriate treatment. The children would be highly benefited from pre-packed drugs, and mothers from integrated management of childhood illness education.

Remarkably, all the respondents (100%) took further action on febrile children. This gave evidence of failure in first action as shown in table 5. The failure suggests poor case management practices by mothers and caregivers at the initial stage. This failure is reflected in the report of Fawole and Onadeko that drug treatment practice of mothers were often incorrect for malaria in under five- years old children.[8]

The increase of contacts made to government hospitals/ health centers by mothers as from first line action through second to the third line of action is remarkable. This finding is in line with reports of previous studies carried out in Nigeria, that professional consultation follows in case home treatment fails.[10,18] Indigenous or faith healers were contacted by few of the respondents after the primary action failed. From the finding of this study the majority were found having satisfactory level of practice. The findings of the study that the use of herbs was unpopular and preference for government hospitals/ health centers as subsequent action substantiate, the satisfactory level of practice recorded for the majority of the mothers in the study. In a quantitative report from the study, mothers gave two main reasons for their preference, namely availability of drugs and satisfactory and fast service.

Implication for Nursing

The consistently high prevalence of home treatment of febrile illnesses among under-five year old children by mothers is of great challenge to nurses. This coupled with the finding that chemists were the main source of obtaining orthodox drugs demands for training of mothers and patent medicine vendors on treatment of febrile illnesses especially drug dosages and schedules. The IMCI (integrated Management of Childhood Illness) training modules would be an appropriate guideline for such training.

The subsequent actions which tend towards modern health facility can be exploited by nurses in reinforcing positive practices, and correct any wrong practice. That is, health educational programmes in acute care setting or primary care setting should be adequately planned and discharged by the professional nurses.

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