

Assessment of the knowledge and attitude of Jos residents toward the prevention and treatment of fever

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ABSTRACT

Background: A fever is a temporary increase in the body temperature, indicating that something out of the ordinary is going on in the body. Fever is a common sign of changes in the body of patients and a common cause of hospital visits, especially for children. Occurrence of fever in most cases is due to self-limiting viral infection or serious bacterial or other microbial infections. **Aim:** The study is aimed at assessing the current level of knowledge and attitudes of Jos residents about what fever is all about, its treatment and prevention. **Materials and Methods:** The study was cross-sectional in design, which involved a two-stage cluster random sampling procedure. Jos is divided into districts and in each districts, the area was broken down to sub-districts from which three zones were selected; based on population within the selected zones, households were randomly numbered and houses assigned odd number were identified. A semi-structured interviewer questionnaire was then administered to the respondents and the finally filled questionnaires were then retrieved and analyzed using the SPSS version 20.0 software programmer. **Result:** Out of the 400 respondents, 66.5% falls within the age range of 21-49 years with females constituting 56.5% of the study population. Educationally, 45.9% of the respondents had completed secondary schools while 39.6% had bachelor degree. 67.2% of the respondents agreed that malaria was the common conditions that come with fever, followed by typhoid fever (19%). 26.5% of the respondents agreed that personal preventive/environmental hygiene remain the mainstay when it comes to fever prevention, with 26.5% also believing that the use of pesticides/rodenticides was another preventive measure, whereas 20.6% agreed that chemoprophylaxis was another option. **Conclusion:** The study showed that the residence of Jos had good knowledge of conditions that are associated with fever and its management, which might be due to the literacy levels of the study population; there is still need to improve their knowledge on the other conditions that comes with fever and their preventive measures.

Keywords: Fever, hypothalamus, knowledge, pyrogens, temperature, treatment

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Introduction

According to Mayo Clinic, a fever is a temporary increase in the body temperature, indicating that something out of the ordinary is going on in the body.^[1] Fever is a common sign of changes in the body of patients and a common cause of hospital visits, especially for children.^[2] According to these authors, occurrence of fever in most cases is due to self-limiting viral infection or serious bacterial or other microbial infections.

Fever also known as pyrexia or controlled hyperthermia^[3] is a common medical sign characterized by an elevation of temperature above the range of 36.5-37.5°C (98-100°C) due to an increase in the body temperature regulatory set-point.^[4] Fever consists of three clinical phases: Chill, fever, and flush.^[5] There are arguments for and against the usefulness of fever and the issue is controversial.^[6,7] There are studies using warm-blooded vertebrates^[8] and humans^[9] *in vivo*, with some suggesting that they recover more rapidly from infections or critical illness due to fever. A finished study suggested reduced mortality in bacterial infections when fever was present.^[10]

Fever has been found to be an outstanding sign of many acute illnesses with different fever pattern (rise and fall

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of temperature) that is typical for each disease. To treat or prevent such fever related diseases successfully, it is important to know how to tell one from another. The study examined the current level of knowledge and attitudes of Jos residents about what fever is all about, its treatment and prevention. The outcome of this study would be used to enlighten the populations with poor knowledge of fever.

Materials and Methods

Study location

The study was carried out in Jos and environs. Jos is the capital of plateau state with an estimated population of about 900,000 with a density of 1.012.7/square. The altitude ranges from around 1,200 m (about 4000 feet) to a peak of 1,829 m above sea level in the shere Hills range near Jos. Located in North Central Nigeria, Plateau State occupies 30,913 km².

Study population

The study population consisted of individuals of both sexes living within the metropolis of Jos; this cut-across pupils in primary schools, secondary school students, and students in the tertiary institutions, traders in their market place, and workers in the offices and residents in Jos metropolis.

Sample selection

Sample selection involved the use of two-stage cluster random sampling procedure at the district level to select sub-districts and zone from where the study sample could be drawn. In each districts, the area was broken down to sub-districts from which three zones were selected based on population within the selected zones, households were randomly numbered and houses assigned odd number were selected into the final sample. A key decision maker respondent (male or female) was identified for interview in the final sample population. Knowledge of fever, signs and symptoms, prevention method such as bush clearing, use of insecticides impregnated nets, removal of stagnant water use of insecticides, fumigation of homes and environment and the use of prophylactic anti-fever with the respondents attitudes toward the above mentioned parameters of fever were the main outcomes measured as determinants for the knowledge and attitude of Jos resident toward the treatment and prevention of fever.

Ethical clearance

The ethics committee of the Faculty of pharmaceutical sciences, University of Jos reviewed and approved the study protocol. The purpose of this study was explained to the target population and their written consents individually obtained before the questionnaire was administered.

Data collection

A precoded questionnaire were pretested and administered in the face — to face interview approach to 60respondents across age and sex. The results of the pretested were excluded from the analysis. A semi-structured interviewer questionnaire, which was adapted from previous health survey studies published in peer review journals were administered to all the eligible participants. The data were collected by trained data collectors through face to face interview of the respondents.

Statistical analysis

Statistical analysis was performed using the Statistical Package for Social Sciences, SPSS version 20.0 software programmer, IBM Incorporation. Statistical measures used include frequencies, means and standard deviation, significance test of association.

Results

Sociodemographic characteristic of the respondents

Data of four hundred respondents (400) was collected. Those that fall within the age range of 21–49 years constituted about 66.5% of the study population with females constituting 56.5% of respondents and about 89.8% of the respondents were not married (singles). Educationally, 45.9% of the respondents had completed secondary schools while 39.6% had bachelor degree [Table 1].

Respondents knowledge of the different types of fever

When respondents were asked about the conditions that come with fever, malaria was the most common response (67.2%), followed by typhoid fever (19%). A low percentage identified viral infections as conditions that come with fever. The study showed average knowledge among respondents about the types of conditions that comes with fever on a categorized scale [Table 2].

Knowledge of respondents' of the various preventive measures for fever

Majority of the respondents (26.5%) agreed that personal preventive/environmental hygiene remain the mainstay when it comes to fever prevention. These preventive measures include washing of hand and cooking food well (especially vegetables and fruits) before eating, discarding stagnant water, clearing empty containers/tires/pots to avoid mosquito breeding sites.

When asked about other preventive measures, 20.6% responded that the chemoprophylaxis is another preventive

major for fever with 26.5% agreeing that pesticides/rodenticides are another option.

Association between various parameters of fever and respondents' attitudes

From Table 3, there was a strong association between the respondents' knowledge of causes of fever and their attitudes to prevention of fever. This implies that a good knowledge of causes of fever impacts their attitude on prevention of fever. On the other hand, there was a weak association between the respondents' knowledge of fever and their attitudes to treatment. This could be as a result of the respondent exposure to the different fever treatments methods while some of the respondents will prefer to rest, and their fever will be a cure. This means that not all diagnosed cases of fever are treated using the conventional means.

Discussion

The result indicates that the study population has fare knowledge of fever types, courses, diagnoses and treatment of fever [Tables 2 and 4]. Similarly, most of the respondents' (>60%) were familiar with the signs and symptoms associated with fever. This is expected for a population in a fever endemic area especially malarial and typhoid and with over 80% having being formally educated. However, a large percentage

Table 1: Sociodemographic information of the respondents (n = 400)

Parameters	Factors	Number	Percentage
Sex	Male	174	43.5
	Female	226	56.5
Age	0 12 years	27	6.8
	13 20 years	95	23.8
	21 49 years	266	66.5
	50 years	12	3.0
Marital status	Single	359	89.8
	Married	41	10.2
	Divorced	0	0.0
	Widow/widower	0	0.0
Educational qualification	Primary	31	7.8
	Secondary	184	45.9
	OND	21	5.3
	BSc	158	39.6
	MSc	5	1.2
	PhD	1	0.2
Religion	Christianity	387	96.8
	Islam	13	3.2
Occupation	Civil servant	40	10.0
	Trader	9	2.3
	Artisan	14	3.5
	Farmer	6	1.5
	Student	318	79.5
	Housewife	2	0.5
	Others	11	2.3

OND: Ordinary national diploma

Table 2: Respondents knowledge of the different types of fever (n = 400)

Parameters	Factors	Number	Percentage
Types of fever	Malaria	269	67.2
	Typhoid	76	19.0
	Influenza	24	6.0
	Measles	5	1.2
	Chicken pox	9	2.2
	Rheumatism	4	1.0
	Hepatitis	7	1.8
	Can't say	6	1.4
Categorized scales of knowledge of respondents	No idea	46	11.5
	Average knowledge	297	74.3
	Great knowledge	57	14.2

Table 3: Association between various parameters of fever and respondent's attitudes

Parameters	Mean	SD	95% CI	Significance
Association between respondents knowledge of fever and their attitude toward preventive measure	7.61	3.74	7.24-7.98	0.000
Association between respondents knowledge of fever and their attitude toward its signs and symptoms	0.83	4.75	0.36-1.29	0.001
Association between respondents knowledge on causes of fever and their attitude on prevention of fever	11.11	3.61	11.47-11.76	0.000
Association between respondents knowledge of fever and their attitude on treatment of fever	0.32	4.29	0.10-0.74	0.14

SD: Standard deviation, CI: Confidence intervals

Table 4: Respondents knowledge of the various preventive measures of fever (n = 400)

Preventive measures by respondents	Frequency	Percentage
Drugs/vaccines (chemoprophylaxis)	83	20.6
Personal/environmental hygiene	106	26.5
ITN	73	18.2
Repellants	27	6.8
Pesticides/rodenticides	106	26.5
Others	5	1.4

ITN: Insecticide treated net

of the respondents' practices self — medication; this is a very common practice in most fever endemic countries^[11] convenience and the severity of the disease were major indicators in over half of the respondents' choice of treatment, thus indicating that they were used to fever especially malaria and typhoid and have a reduced fever risk perception. The endemic nature of the disease and the respondents' confidence in self — medication appear to make fever trivial a perception that is at variance with the emergence of drug resistant strains of fever parasites (bacteria, virus, pyrogens etc.) from inappropriate therapy. In addition, the study established a

relationship between levels of education and appropriate fever risk perception and attitude; as over half of the respondents [Tables 2 and 4] are willing to go to the hospital/lab in the events of fever attack, use insecticides treated net and visit the chemist or pharmaceutical store or practice personal/environmental hygiene as preventive measures are educated to at least secondary school level.

The study highlight respondents' perception of vector control methods and shows that the use of untreated bed nets, fumigation, and insecticides impregnated bed nets were not common with the respondents' studied [Table 3]: For reasons bothering mostly on preserved ineffectiveness and incontinence. The use of bed nets reduce the degree of human vector contact and fever transmission and the prevalence of fever (malaria and typhoid especially). Infection can be significantly lowered by the use of insecticide impregnated bed nets.^[12] This report shows that impact on fever of insecticide treated net (ITN) seems good [Table 3] when compared with spraying trials^[13] and as seen in the survey carried out; more than half of the respondents' chose repellent and pesticide to be more hazardous this could be as a result of the side effect experienced when using this preventive measures. While current international effort at fever control are targeted towards the use of personal/environmental hygiene and the use of ITN for prevention via vector control;^[13] about 55.3% and 27% preferring it as method of fever prevention with only 11.2%, 1%, 4% and 1.5% of the respondents' choosing drugs and other preventive measures. This implies that the respondents' have good knowledge and attitude toward fever prevention. Special strategies are needed to deliver subsidized ITNs to vulnerable populations in areas where fever especially malaria, typhoid and influenza and poverty are most severe. The lack of shops with ITNs can be a major constraint to bed net ownership and use in these areas. Educating community members regarding the beneficial effects of using insecticides impregnated bed nets and implementing their use and appropriate intervention to achieve high control of fever vectors in endemic areas.^[13] The result [Table 3] indicates the use of personal/environmental hygiene and ITN s as safer and more economical than the other preventive measures as about 59.2% and 18.8% of the respondents' preferred and perceived these to be so.

Conclusion

From the study, it was observed that high proportion of the study population were familiar conditions that are associated

with fever and its management, which might be due to the literacy levels of the study population; there is still need to improve their knowledge on the other conditions that comes with fever and their preventive measures.

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