



LEVEL OF KNOWLEDGE, ATTITUDE, PERCEPTION AND MALARIA-PREVENTION PRACTICES OF SELECTED ARTISANS IN ABEOKUTA SOUTH LOCAL GOVERNMENT

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ABSTRACT: *Background: Malaria in developing countries is still high, with about 58% of malaria-related deaths. The purpose of this study was to assess the level of knowledge, attitude, perception and malaria-prevention practices of selected artisans in Abeokuta South Local Government Area. METHODOLOGY: The study was a descriptive, cross-sectional survey. A 69-item questionnaire was used to obtain information from 19 selected groups of artisans across 16 areas using convenience sampling. Data was analysed using SPSS version 21. RESULTS: The majority of the respondents were traders (79; 20.6%), and 244 (63.5%) were males with a mean age of 31.5±0.50. About 132 (34.4%) had senior secondary education. The artisans had means scores above average in knowledge, attitude and practice but scored low in perception. Knowledge, attitude and perception had a significant impact on practice (P value at 0.05). The artisans scored highest in expertise, with a mean score of 21.92 (64.47% of 34). Their perception was lowest, and it had a significant negative correlation with knowledge (-0.373). CONCLUSION: The study showed that the knowledge of the artisans had a reverse association with their perception of malaria-prevention practices. This implies that malaria awareness/campaign alone is not enough. There is a need for the incorporation of artisans as training agents to redirect and improve the perception of their colleagues.*



INTRODUCTION

Malaria has a higher inequality in distribution than any other disease of public health importance, as about 58% of malaria deaths occur among developing countries, which make twenty 20% of the world's population (Yadav, Dhiman, Rabha, Saikia, and Veer, 2015). The global statistics of malaria reveal its estimate at 2.4 billion in 90 countries. There are 300-500 million cases annually, with tropical African countries accounting for 90% of these. (Karanja, Okumu, Karuri, Kibe and Osawa, 1999).

However, malaria leads to 1.4- 1.6 million deaths worldwide, with more than ninety percent (90%) of these occurring in Africa (Karanja et al., 1999). More than 800,000 African children under the age of five die of malaria each year. Malaria also contributes to malnutrition in children, which indirectly causes the death of half of all children under the age of five throughout the world. About 50 million pregnant women across the globe are exposed to malaria each year. In malaria-endemic regions, one-fourth of all cases of severe maternal anaemia and 20% of all low-birth-weight babies are linked to malaria (Onwujekwe, Etiaba, Uguru, Uzochukwu, Adjagba and Alex, 2014)

The health and economic burden posed by malaria on the country is huge. About one-hundred and thirty-two billion (N132 billion) naira is spent every year in the form of malaria prevention, treatment costs and loss of overall economic productivity (Onwujekwe et al., 2014). Despite the awareness and consequent funding on the use of applicable preventive methods, malaria (and its consequences) still abounds with no exception to the artisan population (Iwu et al., 2010)

Malaria, being known to have attracted several interests and interventions, still creates a major health burden on the state, with 300-500 million cases annually, with 24 tropical African countries accounting for ninety percent (90%) of these (Karanja, Okumu, Karuri, Kibe & Osawa, 1999). But malaria cases still abound, with no exception to the artisan population. This research sought to provide answers to these grey areas relative to the artisan population in Abeokuta South Local Government of Ogun State. The results thereof may provide useful information in developing and directing appropriate educational programs targeted at filling the knowledge gaps, changing necessary perspectives and attitudes, aiding acceptability and promoting the practice of applicable malaria-prevention techniques. This may aid artisan participation in the efforts towards malaria prevention.

METHODOLOGY

Study Design

A cross-sectional descriptive survey was selected because it provides an accurate account of the characteristics of the respondents. The study was conducted at Abeokuta south Local Government Area in Ogun State. The population of the study involved 19 classes of artisans (Hairdressers, Bricklayers, Auto- technicians, Vulcanizers, Electricians, Painters, Carpenters, Welders, Panel Beaters, Barbers, Gold Smiths, Traders, Drivers, Fashion Designers, Fabric designers, Aluminum craft workers, Auto- Electricians, Generator technicians, Plumbers) in Abeokuta South Local Government Area of Ogun. The inclusion criteria consist of participants who own a shop and belong to a registered group of artisans at the local government level. In



contrast, artisans who aren't registered will not participate in this study. A questionnaire that involved 69 items and was grouped into four sections was administered. The sections had seven questions on demographic characteristics, 34 questions on knowledge of malaria, nine questions on attitude, eight questions on perception of risk of malaria infection, and 11 questions on the practice of malaria prevention.

Research Instrument and Data Collection

The instrument used for data collection was a semi-structured questionnaire; the data collection procedure involved the use of trained research assistants who would also read out the questionnaires in English and Yoruba. Artisan bosses in the workshop were also partnered with to help mobilise the artisans. Incentives were also given to the respondents to ensure their full commitment and appreciate their contribution to the research. Sample size was calculated using the Leslie Kish formula; the computed sample size for this study was 384 in which there was a 90% response rate. Pilot testing of the questionnaire was administered to 20 artisans in Abeokuta with similar backgrounds to the sample population. The Cronbach's coefficient alpha test was obtained using the statistical package for social sciences version 21, and the value given was 0.614.

Data Analyses

Data retrieved from this study was analysed using IBM Statistical Product and Service Solution (SPSS) version 21.0. Descriptive and inferential statistics were used to answer the research questions, and results were presented in tables, pie charts, and bar charts.

Ethical Clearance

For this study, ethical clearance was obtained from the Babcock University Health Research Ethics Committee.

RESULTS

Socio-Demographic data

The results showed that the majority, 39 (10.2%) of the respondents work in Sapon, 244 (63.5%) males and 140 (36.5%) females participated. The mean age of respondents was 31.5 ± 0.50 years and ranged between 13 to 70 years. The Yorubas, 314 (81.8%), represent the highest number of respondents; artisans who started or completed senior secondary education were highest, 132 (34.4%); and married artisans, 234 (60.9%), also represented a majority of the respondents. 184 (47.9%) of the participants had no child, and traders, 79 (20.6%), represent the highest number of artisans in the study.



TABLE 4.1 Illustrating the frequency distribution of demographic characteristics for level of knowledge, attitude, perception and malaria- prevention practices of selected artisans in Abeokuta South Local Government.

Variables	Respondent in the study n=100	
	frequency (n)	percent (%)
4.1a	Place of work	
Ake	12	3.1
Panseke	28	7.3
Okejigbo	18	4.7
Okemosan	13	3.4
Ijaiye	33	8.6
Sapon	39	10.2
Onikolobo	24	6.3
Kuto	32	8.3
Itoku	27	7.0
Ita eko	17	4.4
Omidia	31	8.1
Oke ilewo	7	1.8
Adigbe	37	9.6
Isabo	16	4.2
Agbeloba	9	2.3
Isale igbein	2	.5
Ago oba	3	1
Ake	12	3.1
4.1b	Age	
Below 20	31	8.1
20-29	172	44.8
30-39	96	25
40-49	68	17.7
50-59	13	3.4
60-69	2	0.5
70-79	2	0.5
4.1c	Gender	
Male	244	63.5
Female	140	36.5
4.1d	Educational Attainment	
Non formal education	70	18.2
Started or completed Primary 1-6	73	19
Started or completed junior secondary school	68	17.7
Started or completed senior secondary school	132	34.4
More than secondary school.	41	10.7
4.1e	Marital Status	
Single or never married	134	34.9
Married	234	60.9
Divorced	7	1.8
Separated	9	2.3
4.1g	Number of Children	
None	184	47.9
One	27	7
Two	61	15.9
Three	60	15.6
Four	23	6
Five	16	4.2
Six	9	2.3
Seven	2	0.5
Twelve	2	0.5
4.1h	Job type	
Hairdressers	47	12.2
Auto- technicians	21	5.5
Vulcanizers	2	0.5
Electricians	2	0.5
Painters	6	1.6
Carpenters	9	2.3
Welders	20	5.2
Panel beaters	16	4.2
Barbers	20	5.2
Goldsmiths	14	3.6
Traders	79	20.6
Drivers	20	5.2
Fabric designers	71	18.5
Aluminium craft workers	2	0.5
Auto- electricians (rewire)	23	6
Plumbers	22	5.7

**Knowledge of malaria of artisans in Abeokuta South Local Government Respondents were asked more questions to evaluate their knowledge of malaria.**

Table 4.2 shows that 341 (88.8%) agreed that malaria is a disease, 321 (83.6%) agreed that sleeping under nets protects from malaria, 322 (83.9%) agreed that malaria transmission occurs in places with stagnant water, 310 (80.7%) agreed that malaria transmission occurs in places with bushes, 218 (56.8%) disagreed that malaria transmission occurs in areas with proper refuse disposal, 327 (85.2%) agreed that high body temperature is included in its signs and symptoms. 339 (88.3%) agreed that headache is included in its signs and symptoms. Among the respondents, 268 (69.8%) agreed that vomiting is included in its signs and symptoms, 252 (65.6%) agreed that convulsion is included in its severe signs and symptoms, 303 (78.9%) agreed that a change in urine colour may be included in its signs and symptoms, 204 (53.1%) agreed that catarrh is included in its signs and symptoms, 220 (57.3%) agreed that chills may be included in its signs and symptoms. 274 (71.4%) agreed that loss of appetite is consistent with its signs and symptoms, 264 (68.8%) agreed that body ache/joint pain is included in its signs and symptoms,

Among the respondents, 234 (60.9%) associated malaria infection with hard labour or stress, and 261 (68%) associated malaria infection with extended stay under the sun. 171 (44.5%) did not associate malaria infection with being in the rain, 338 (88%) agreed that malaria is prevented by the use of insecticide- treated-mosquito nets, 288 (75%) agreed that malaria is prevented by the use of window and door screens, 301 (78.4%) agreed that regular intake of malaria preventive drugs prevents malaria infection. 293 (76.3%) agreed that discarding stagnant water is associated with the prevention of malaria infection, 285 (74.2%) agreed that sleeping in a well-aerated area prevents malaria infection, 149 (38.8%) agreed that leaving stagnant water to dry naturally prevents malaria. 294 (76.6%) agreed that using insecticidal sprays prevents malaria infection. 183 (47.7%) did not agree that drinking alcohol prevents malaria.

**Table 4.2: shows a detailed description of the response patterns for knowledge.**

Statements considered	Respondents in the study N=384	
	Frequency	Percentage (%)
Malaria is a disease		
Yes	341	88.8
No	30	7.8
Not Sure	13	3.4
Sleeping under bed nets protects one from mosquito bites	321	83.6
Yes	32	8.3
No	31	8.1
Not Sure		
Malaria transmission occur in places with stagnant water in gutters around the house		
Yes	322	83.9
No	24	6.3
Not Sure	38	9.9
Malaria transmission occur in places with bushes around the houses	310	80.7
Yes	38	9.9
No	36	9.4
Not Sure		
Malaria transmission occur in places with properly disposed refuse and wastes		
Yes	123	32
No	218	56.8
Not Sure	43	11.2
Signs and symptoms are high body temperature		
Yes	327	85.2
No	23	6.0
Not Sure	34	8.9
Headache		
Yes	339	88.3
No	21	5.5
Not Sure	24	6.3
Vomiting		
Yes	268	69.8
No	60	15.6
Not Sure	56	14.6
Convulsion in severe malaria		
Yes	252	65.6
No	70	18.2
Not Sure	62	16.1
Change in urine colour		
Yes	303	78.9
No	45	11.7
Not Sure	36	9.4



Sleeping in a well aerated/ ventilated area		
Yes	285	74.2
No	49	12.8
Not Sure	50	13
Leaving stagnant water to dry naturally under the sun		
Yes	149	38.8
No	147	38.3
Not Sure	88	22.9
Using insecticidal sprays		
Yes	294	76.6
No	45	11.7
Not Sure	45	11.7
Drinking alcohol prevents malaria		
Yes	26	6.8
No	183	47.7
Not Sure	175	45.6

Attitude towards malaria of artisans in Abeokuta South Local Government

Nine questions were asked to reveal each respondent's attitude towards malaria. A Likert scale was employed to measure their respective attitudinal levels. Each question carried scores ranging from 0- 3, with a total of 27 scores in all. Of the respondents, 89 (23.2%) very worried about malaria infection, 88 (22.9%) strongly disagreed that malaria is merely an inconvenience, (37.2%) disagreed with sleeping under mosquito nets for fear of the infection, 182 (47.4%) disagreed with regular intake of anti- malaria for fear of the disease. 115 (29.9%) disagreed that recurrent malaria infection in pregnancy has no consequences, 150 (39.1%) disagreed that traditional herbs are better for treating malaria, 185 (48.2%) do not bother about malaria symptoms, 71 (18.5%) are bothered, 107 (27.9%) disagreed to taking pain killers or alcohol to feel better, 173 (45.1%) agreed to be afraid of mosquito bites, 87 (22.7%) disagreed. Table 4.3 below illustrates the response patterns.

Table 4.3 Responses to questions on attitude towards malaria

Statements considered	Respondents in the study N=384	
	Frequency	Percentage (%)
From what I know about malaria, I am not worried about getting malaria	89	23.2
Strongly disagree	111	28.9
Disagree	131	34.1
Agree	53	13.8
Strongly agree		
Malaria is common and merely an inconvenience, just like the common cold		
Strongly disagree	88	22.9
Disagree	180	46.9
Agree	88	22.9
Strongly agree	28	7.3
I am afraid of mosquito bites, so I sleep under insecticide treated nets	131	34.1
Strongly disagree	143	37.2
Disagree	68	17.7
Agree	42	10.9
Strongly agree		



I am afraid of malaria, so i take anti- malaria medications given to me	114	29.7
Strongly disagree	182	47.4
Disagree	65	16.9
Agree	23	6
Strongly agree		
I believe if a pregnant woman has malaria often, there will be no consequences to the pregnancy		
Strongly disagree	75	19.5
Disagree	115	29.9
Agree	112	29.2
Strongly agree	82	21.4
I believe traditional herbs are better for treating malaria	125	32.6
Strongly disagree	150	39.1
Disagree	64	16.7
Agree	45	11.7
Strongly agree		
I don't bother about symptoms of malaria		
Strongly disagree	42	10.9
Disagree	71	18.5
Agree	185	48.2
Strongly agree	86	22.4
I take painkillers or alcohol to feel better		
Strongly disagree	53	13.8
Disagree	107	27.9
Agree	105	27.3
Strongly agree	119	31
I am not afraid of mosquito bites		
Strongly disagree	42	10.9
Disagree	87	22.7
Agree	173	45.1
Strongly agree	82	21.4

Perception of Risk of Malaria Infection Among Artisans in Abeokuta South Local Government

Eight questions were asked to reveal each respondent's level of perception. A Likert scale was employed to measure their respective levels of perception. Each question carried scores ranging from 0- 3, with a total of 24 scores in all. Of the respondents, 164 (42.7%) agreed that malaria infection could kill, 180 (46.9%) agreed that malaria infection can negatively impair adult activities, 187 (48.7%) agreed that malaria infection can kill neonates and young children, 161 (41.9%) agreed that malaria infection can impair proper growth in neonates and young children, 147 (38.3%) agreed that malaria only makes children and adults sick and does not lead to death, 185 (48.2%) agreed that malaria may negatively affect the health of both pregnant women and their foetus. 136 (35.4%) disagreed that malaria infection only affects pregnant women, and 118 (30.7%) agreed that malaria infection can reduce the income of the family.



Table 4.4 Responses to questions on level of perception of malaria

Statements considered	Respondents in the study N=384	
	Frequency	Percentage (%)
Malaria can kill an adult patient if untreated		
Strongly disagree	43	11.2
Disagree	28	7.3
Agree	164	42.7
Strongly agree	149	38.8
Malaria can impair adult activities negatively		
Strongly disagree	32	8.3
Disagree	39	10.2
Agree	180	46.9
Strongly agree	133	34.6
Malaria can kill neonates and young children		
Strongly disagree	30	7.8
Disagree	35	9.1
Agree	187	48.7
Strongly agree	132	34.4
Malaria can impair proper growth in neonates and young children		
Strongly disagree	52	13.5
Disagree	68	17.7
Agree	161	41.9
Strongly agree	103	26.8
Malaria only makes young children and adults sick, not necessarily lead to death if untreated		
Strongly disagree	63	16.4
Disagree	107	27.9
Agree	147	38.3
Strongly agree	67	17.4
Malaria may negatively affects the health of pregnant women and the foetus		
Strongly disagree	33	8.6
Disagree	47	12.2
Agree	185	48.2
Strongly agree	119	31
Malaria affects only pregnant women and cause		



delivery complications , but not their foetus		
Strongly disagree	135	35.2
Disagree	136	35.4
Agree	72	18.8
Strongly agree	41	10.7
Malaria can reduce the income of a family		
Strongly disagree	112	29.2
Disagree	52	13.5
Agree	118	30.7
Strongly agree	102	26.6

Malaria Prevention Practices of Artisans in Abeokuta South Local Government

Eleven questions were asked to reveal each respondent's level of malaria-prevention practices. A Likert scale was employed to measure their respective levels of malaria prevention practice. Each question carried scores ranging from 0 - 3, with a total of 33 scores in all. Of the respondents, 116 (30.2%) do not use chemical spraying with insecticides, 191 (49.7%) eradicate stagnant water, 102 (26.6%) do not use window screens at all, and 112 (29.2%) use door screens very often. Over hundred (135;35.2%) use long-lasting insecticide-treated nets very often, 102 (26.6%) do not take medicines to prevent a malaria infection, 149 (38.8%) do take herbal remedies to prevent and treat malaria infection very often, 139 (36.2%) often avoid stressful activities, 136 (35.4%) encourage their pregnant wives to take anti-malaria medications very often, 139 (36.2%) cut bushes around the house very often. 174 (45.3%) put on protective clothing very often.

Table 4.5 Responses to questions on the level of malaria prevention practices

Statements considered	Respondents in the study N=384	
	Frequency	Percentage (%)
I use chemical spraying with insecticides		
Not at all	116	30.2
Rarely	87	22.7
Often	97	25.3
Very often	84	21.9
Stagnant water of different forms in the surroundings are not an issue at all. I leave them.		
Not at all	191	49.7
Rarely	99	25.8
Often	65	16.9
Very often	29	7.6
I use window screens		
Not at all	102	26.6
Rarely	76	19.8
Often	92	24
Very often	114	29.7
I use door screens		
Not at all	88	22.9
Rarely	74	19.3
Often	110	28.6
Very often	112	29.2
I use long lasting insecticidal nets		
Not at all	82	21.4
Rarely	79	20.6
Often	88	22.9
Very often	135	35.2
I take orthodox medicines and OTCs to prevent and treat malaria		
Not at all	102	26.6
Rarely	100	26
Often	112	29.2
Very often	70	18.2
Taking herbal remedies (Agbo), to prevent and treat malaria		
Not at all	46	12
	96	25



Rarely	93	24.2
Often	149	38.8
Very often		
I avoid stressful activities		
Not at all	62	16.1
Rarely	113	29.4
Often	139	36.2
Very often	70	18.2
I encourage my pregnant wife (if married) to use recommended antimalaria medications		
Not at all	128	33.3
Rarely	39	10.2
Often	81	21.1
Very often	136	35.4
I cut bushes in the surrounding		
Not at all	45	11.7
Rarely	80	20.8
Often	120	31.3
Very often	139	36.2
I ensure that I put on protective clothing at all times when outside		
Not at all	63	16.4
Rarely	62	16.1
Often	85	22.1
Very often	174	45.3

DISCUSSION

The knowledge of the artisans was shown to have a positive relationship with their attitude towards malaria (which is also above average), and this was reflected by the Pearson correlation coefficient of 0.338. Knowledge was also shown to have a significant impact on the practice of malaria prevention (P value 0.02), and this was supported by a study carried out by Adegun et al. (2011). The perception of the artisans was the lowest, presenting with about one-third of the total obtainable scores, and it also showed the highest negative correlation with knowledge, being -0.373, and for attitude and practice, -0.178 and -0.258, respectively.

The 'positive deviance process' study shares a similar perspective, as an increase in the awareness of malaria resulted in further negative perceptions within the population of study in Cambodia. A probable explanation of this may result from individuals tending to interpret the same messages differently by filtering them through their past experiences or the experiences of others, and this may allow the artisans to see the practice of malaria prevention as unnecessary; such perceptions may be unavailability of insecticide-treated bed nets.

CONCLUSION

Results from this study reveal that the knowledge and attitude of malaria prevention among artisans in the area of study was fair, but it can be improved. Their perception was quite low, and their practice was fair. This suggests that interventions focused on malaria awareness and knowledge dissemination may no longer be sufficient to tackle this endemic disease. To reduce the incidence of malaria, there may be a need to incorporate the artisans as training agents to redirect and improve the perception of their colleagues towards increased and sustained practice of malaria prevention.



RECOMMENDATIONS

This should improve the practice of malaria prevention and ultimately lead to success in eradicating malaria.

Prospective studies on the factors influencing the perception of the artisans towards malaria are therefore suggested.

This should lead to a positive redirection of such factors and an increase in them, producing a positive causal relationship between the perception and the practice of malaria prevention.

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