

Note: This is Online Appendix 1 of Taffese HS, Zuma SM. Determinants of persistent malaria transmission in the Arjo-Didessa farm area in Ethiopia. S Afr J Infect Dis. 2024;39(1), a623. <https://doi.org/10.4102/sajid.v39i1.623>

## ANNEXURE 1: Questionnaire for Household/Migrant Workers

### Study Title: Factors contributing to transmission of malaria at Jimma Arjo District of Ethiopia

#### Household Socio-Economic and Malaria Prevention Questionnaire

We are conducting a survey about malaria. The information we collect will help the government to plan health services. Your household was selected for the survey. I would like to ask you some questions about your household. The questions usually take about 10-15 minutes. All of the answers you give will be confidential and will not be shared with anyone other than members of our survey team. You don't have to be in the survey, but we hope you will agree to answer the questions since your views are important. If I ask you any question you don't want to answer, just let me know and I will go on to the next question or you can stop the interview at any time.

#### Identification

1. Interviewee Household Head code : \_\_\_\_\_,
2. Interviewee code Date: \_\_\_\_\_
3. Current residency: Regional State: \_\_\_\_\_, Zone: \_\_\_\_\_, Woreda: \_\_\_\_\_,  
Kebele: \_\_\_\_\_, Village: \_\_\_\_\_
4. Household location (GPS readings): Latitude: \_\_\_\_\_, Longitude: \_\_\_\_\_, Elevation: \_\_\_\_\_

#### Section 1. Human Demography and Education

5. Sex of household head: (1) Male, (2) Female
6. Age of head of household: \_\_\_\_\_
7. Marital status: (1) Married, (2) Single, (3) Separated/Divorced, (4) Widowed
8. Ethnicity: (1) Oromo, (2) Amhara, (3) Tigray, (4) SNNP (99) Others: \_\_\_\_\_
9. Occupation (primary):  
(1) Agricultural worker, (99) Others: \_\_\_\_\_
10. Education (Highest):  
(1) Illiteracy, (2) Preschool (<5 yrs.), (3) Primary school, (4) Middle (lower 2nd) school, (5) High (upper 2nd) school, (6) College or University, (7) Graduate school or higher, (99) Others: \_\_\_\_\_
11. How many people is living with you today?  
a) Age <1: \_\_\_\_\_, b) Age 1-4 \_\_\_\_\_, c) Age 5-9 \_\_\_\_\_, d) Age 10-14 \_\_\_\_\_, e) Age 15-18 \_\_\_\_\_, f) Age >18 \_\_\_\_\_
12. How long have you lived in this current residency (village)? \_\_\_\_\_ years \_\_\_\_\_ months
13. Do you consider yourself to be migrant worker (working outside your home town and travel back to original place)? (1) Yes \_\_\_\_\_, (2) No \_\_\_\_\_
14. If you are migrant worker, please indicate your permanent residency: Regional State: \_\_\_\_\_,  
Zone: \_\_\_\_\_,

#### Section 2. Socio-economic status survey

15. Roof material: (1) Corrugated Iron Sheet, (2) Tiles, (3) Concrete, (4) Asbestos Sheets, (5) Grass, (6) Makuti, (7) Mud/Dung (99) Others: \_\_\_\_\_
16. Floor material: (1) Cement, (2) Tiles, (3) Wood, (4) soil, (99) Others: \_\_\_\_\_
17. Wall material: (1) Stone, (2) Brick/Block, (3) Mud/Wood, (4) Mud/Cement, (5) Wood Only, (6) Corrugated Iron Sheets, (7) Grass/Reeds, (99) Others: \_\_\_\_\_
18. Does your household or any member of your household have? (*Multiple Choice*): (1) Radio, (2) Television, (3) Telephone/mobile, (4) Refrigerator, (5) Animal Cart, (6) Bicycle, (7) Motorcycle or Motor scooter/Bajaj, (8) Car or Truck
19. Does this household own any following farm animal? (*Multiple Choice*): (1) Cattle, (2) Goats, (3) Sheep, (4) Donkey, (5) Chickens, (6) Horse/mule
20. Does any member of this household own any agricultural land? (Y) Yes, (N) No
21. What type of fuel does your household mainly use for cooking? (1) Electricity, (2) Gas, (3) Biogas, (4) Kerosene, (5) Charcoal, (6) Firewood/straw, (7) Dung, (99) Other: \_\_\_\_\_

**Section 3. Malaria prevention and health care survey, IRS**

- 22. At any time in the past 12 months, have the walls in your dwelling been plastered or painted? (Y) Yes, (N) No, (U) Don't know
- 23. At any time in the past 12 months, has anyone sprayed the interior walls (IRS) of your dwelling against mosquitoes? (Y) Yes, (N) No, (U) Don't know
- 24. If there is IRS within household, who sprayed the house against mosquitoes? (1) Government Worker/program, (2) Household Member, (99) Other: \_\_\_\_\_

**Section 4. Malaria prevention and health care survey, LLINs**

- 25. Do you and your family/ other migrant worker do anything to keep mosquitoes away from your house? (*select all that apply*)  
(1) Use screened windows/ doors (2) Use bednet (3) Regular use of sprays (4) Regular use of coils  
(5) Burn herbs (6) Fan (7) Nothing (99) Other: \_\_\_\_\_
- 26. If you don't do anything to protect yourself against mosquito bites, why not?  
(1) No risk, (2) No effect. (3) Inconvenience, (99) Other \_\_\_\_\_

**[If use bed net as protection method]**

- 27. How many mosquito nets does your household have? \_\_\_\_\_
- 28. Where did you obtain the net? (1) Health Extension worker/Health Post, (2) Government health facility/health center, (3) Community health worker / agent
- 29. (Observe or ask) the brand of mosquito net: (1) PermanetOlyset, (2) MagNet, (3) Interceptor, (4) Yorkool, (5) Dawanet (99) Other \_\_\_\_\_
- 30. How old are those nets (in months)?  
a) Net 1: \_\_\_\_\_, b) Net 2: \_\_\_\_\_, c) Net 3: \_\_\_\_\_, d) Net 4: \_\_\_\_\_, e) Net 5: \_\_\_\_\_
- 31. What are the ages of the people who sleep under these nets (years)?  
a) Net 1: \_\_\_/\_\_\_/\_\_\_, b) Net 2: \_\_\_/\_\_\_/\_\_\_, c) Net 3: \_\_\_/\_\_\_/\_\_\_, d) Net 4: \_\_\_/\_\_\_/\_\_\_, e) Net 5: \_\_\_/\_\_\_/\_\_\_
- 32. How many people/ migrant worker in household do not sleep under the net? \_\_\_\_\_  
32.a) What are their ages? \_\_\_/\_\_\_/\_\_\_  
32.b) Why not? (1) Inconvenience, (2) Not available, (3)Not important, (4) Prefer another, (99) Other \_\_\_\_\_

**Section 5. Health Service Availability/Accessibility and Malaria Treatment Seeking Behavior**

- 33. Have you and your family member had fever episodes within the last three months? (Y) Yes, (N) No
- 34. Did you or your family member go to health centers or hospital when you had a fever? (Y) Yes, (N) No  
34.a) If yes, did you or your family receive a malaria test (blood sample for diagnosis)? (Y) Yes, (N) No  
34.b) If not, why? (1) Lack of funds, (2) Wait too long, (3) Do not think needed, (99) Others: \_\_\_\_\_  
34.c) Did you have malaria in the last 12 months? (Y) Yes, (N) No  
34.d) If yes, where did you live when you had malaria? (1) current residency or (2) other place: Regional State: \_\_\_\_\_, Zone: \_\_\_\_\_
- 35. Where do you seek medical care when you and your household members suffer from malaria(*select all that apply*)?  
(1) Buy medicine from drug store/ pharmacy, (2) Gov't hospital/clinic, (3) Private clinic, (4) traditional healers, (5) Self-medication by herbs, (6) Buy drugs from peddlers, (99) Other: \_\_\_\_\_
- 36. Is the health facility accessible for your family? (Y) Yes, (N) No
- 37. What is your most important concern for accessing the health facilities? (1) Distance, (2) Time Walked, (3) Cost of traveling, (4) Poor service given, (5) High costs for using the health facilities (99) Other: \_\_\_\_\_
- 38. Are you willing to buy bed net with your own money if the government does not provide nets? (Y) Yes, (N) No

**Section 6. Knowledge of malaria**

- 39. How do you think people contract malaria? (1) Mosquito bites, (2) Rain or stagnant water (3) Eating green maize, (4) Sitting under the sun, (99) Other: \_\_\_\_\_
- 40. How do you receive information about malaria?(*select all that apply*) (1) Radio, (2) School, (3) Health Extension worker/Health Post, (4) community leaders, (5) Neighbor, (99) Other: \_\_\_\_\_
- 41. Do you believe malaria can be prevented? (Y) Yes, (N) No  
41.a) If yes, how to prevent malaria (*select all that apply*)? (1) Using bed net, (2) Using malaria drugs, (3) Spraying, (4) Using larvicide, (99) Other \_\_\_\_\_
- 42. Will insecticide treated nets still be effective against mosquitoes if you wash them? (Y) Yes, (N) No

**Section 7. Behavior**

43. When your bednet is torn or gets a hole, how likely are you to mend it or to have a tailor mend it?
- (1) VERY LIKELY, I mend all holes in the net,
  - (2) SOMEWHAT LIKELY, I sometimes mend holes in the net,
  - (3) SOMEWHAT UNLIKELY, I rarely mend the holes in the net,
  - (4) **VERY UNLIKELY**, I never mend holes in the net
44. How often do you wash your net(s)? (1) When it gets dirty, (2) 1 time a year, (3) 2 – 3 times a year, (4) 4 – 5 times a year, (5) 6 or more times a year, (6) Not at all

Interview/Survey by \_\_\_\_\_