

Assessment of malaria Vaccine Acceptance and Willingness Among Caregivers of Children Under Two Years in Sudan: Across-sectional study

Dear Participant,

Thank you for taking the time to participate in this survey, which aims to assess malaria vaccine acceptance and willingness among Sudanese caregivers of children under two years of age.

This survey has been developed by the Department of Pharmaceutical Microbiology, Faculty of Pharmacy, International University of Africa. Your responses are crucial for understanding potential challenges and improving future outreach and vaccination strategies.

Confidentiality:

All answers provided will be kept strictly confidential and will be used exclusively for academic research purposes. Your personal information will not be shared with any third party, and all data will be anonymized.

Voluntary Participation:

Your participation in this study is entirely voluntary. You have the right to withdraw from the study at any time, for any reason, without any consequences.

Contact Information:

If you have any questions or would like further information, please feel free to contact us via email at [iua.m.vaccine.info@gmail.com].

We greatly appreciate your cooperation and contribution to this important research.

Thank you for your time and support.

Would you like to participate in this study *(By selecting “Yes,” you confirm that you have read and understood the information above and agree to participate in this study)?*

Yes

No

Section One

Sociodemographic questions:

Sex

male

female

Age in Years

Current residence

Inside Sudan

Outside Sudan

Which state are you living in?

Al Jazirah (Gezira)

Blue Nile

Central Darfur

East Darfur

Gedaref (Al Qadarif)

Kassala

Khartoum

North Darfur

North Kordofan

Northern State

Red Sea

Religion:

Muslim

Christianity

Others

Education level:

Khalwa

Intermediate or elementary

Secondary

Graduate

Postgraduate

Marital Status:

Married

Single

Widow

Divorced

Do you have children?

Yes

No

How many children do you have?

One child

Two children

Three children

Four children

Five children

More than 5 children

Go to section based on child number

Gender of the child

Age of the child

Are you currently employed?

Yes

No

What's your Occupation?

Teacher

Farmer

Private sector employee

Healthcare sector

Housewife

Student

driver

Other_____

Monthly income (Sudanese pound SDG) adaptation (mean) change number

<50,000 thousand

50–100 thousand

100–200 thousand

200–400 thousand

>400 thousand

Section two malaria information:

Have you ever heard about Malaria?

Yes

NO

How can malaria be transmitted to humans?

(Select one)

Consumption of contaminated water

Consumption of contaminated food

Bite from a mosquito infected with Plasmodium (malaria parasite)

Direct contact with an individual infected with malaria

Not sure / I don't know

Other

Have you ever been infected with Malaria before?

Yes

No

I don't know

What symptoms did you have?

Fever

Headache

Chill

Cold

Swollen eyes

Bitter tongue

Deep yellow urine

Running stomach

Vomiting

Body pain

Other

Did you take the diagnostic test for malaria?

Yes

No

I Don't remember

Did you receive any treatment?

Yes

No

What kind of treatment did you receive? (You can choose more than one answer)

Artemether-Lumefantrine (Coartem)

Artesunate Injection

Chloroquine

Quinin

Sulfadoxine-pyrimethamine (Fansidar)

Herbal treatment

DAHAP

Has anyone of your family ever died of malaria?

Yes

No

I don't know

Do you think untreated malaria can lead to death?

Yes

No

I don't know

In your opinion, which age groups are more likely to die from malaria?

Children less than 5 years

Adults

Elderly

I don't know

Are you taking any preventive measures against malaria?

Yes

No

What preventive methods do you use to avoid getting malaria (you can choose more than one answer)

I sleep under a mosquito net.

I use a mosquito repellent cream

I use a mosquito spray

I use pesticides

I'm taking preventative medications (before symptoms appear)

I wear long-sleeved clothes and long pants

Treat clothes with insect repellents (e.g. permethrin)

I live in a house with windows and doors with nets

Other

Section three: Malaria vaccine information

Have you ever heard about malaria vaccine?

Yes

No

Source of information

From news from national TV/radio

From government agencies

Focial media (Facebook, telegram and WhatsApp)

Discussion amongst friends and families

Health care providers

Which age group the vaccine will be given?

Under five years old child

Five years and above child

I don't know

Do you think malaria vaccine is effective?

Effective

Not effective

Not sure

How many full doses are required to protect against malaria?

Two doses

Four doses

I don't know

Do you agree that the malaria vaccine will help reduce treatment costs?

Strongly agree

Agree

Neutral

Not agree

I strongly disagree

Do you think the malaria vaccine has side effects?

Yes

No

Not sure

Do you think the malaria vaccine might negatively affect your child's health?

Strongly agree

Agree

Neutral

Not agree

Strongly disagree

Did your child receive the malaria vaccine?

Yes

No

Not available in my area

Did he develop any side effects?

Yes

No

If yes, what are the side effects? (You can choose more than one answer)

Pain/sensitivity at the injection site

Spontaneous pain or when moving the limb

Swelling at the injection site

Redness at the injection site

fever

Excessive irritability/crying

Other

Has one of your relatives, neighbors or friends received the malaria vaccine?

Yes

No

I don't know

Did they develop any side effects?

Yes

No

If yes, what are the side effects?

Pain/sensitivity at the injection site

Spontaneous pain or when moving the limb

Swelling at the injection site

Redness at the injection site

fever

Excessive irritability/crying

Other:

Would you rather have your children get a specific type of malaria vaccine?

Yes

No

What type of malaria vaccine do you prefer to give your children?

The new malaria vaccine R21-Matrix

Older vaccine RTS, S/AS01

I don't know

Do you have any concerns about the malaria vaccine?

Yes

No

What are your concerns about the malaria vaccine? (You can choose more than one answer)

It can be expensive

If not given orally, it may cause paralysis in children

Fear of needles

No money to treat side effects

Vaccination reduces children's fertility in adulthood

Culture prevents vaccinating children

Religion prevents vaccinating children

Belief in vaccine ineffectiveness

A personal decision to refuse the vaccine

Vaccine discomfort

Believing that a vaccine can cause illness

Other:

Does your youngest child receive all scheduled vaccines?

Yes

No

He / she did not take all the scheduled

If Sudan Ministry of Health approved malaria vaccine that Would reduce the occurrence of malaria by 75 %among children younger than 2 years old,

Would you willing to have your child receive this vaccine?

Yes

No

I will give the new Malaria vaccine to my children because (you can choose more than one answer)

It is more safe

It is more effective

Less cost

I trust the local health authority

Others

You have a trust in the health system regarding new vaccines?

Strongly agree

Agree

Neutral

Disagree

Strongly disagree

Everyone should receive the malaria vaccine?

Strongly agree

Agree

Neutral

Disagree

Strongly disagree

Will you encourage your other family members and neighbours to vaccinate their children against malaria?

Strongly agree

Agree

Neutral

Disagree

Strongly disagree

Do you think the newly discovered WHO recommends (R21) Malaria Vaccine for children is safe to take?

Strongly agree

Agree

Neutral

Disagree

Strongly disagree