Factors Associated with Incomplete Routine Childhood Immunization Among Children Aged 12–59 Months in Dongola City, Northern State, Sudan, 2026

Short questionnaire – Google Form layout (interviewer-administered). University of Dongola, Faculty of Medicine and Health Sciences, Department of Community Medicine – Graduation Research Project, Batch (23).

How to use this file: each card is one Google Forms question; the grey tag gives the question type; red * = Required. “Form logic” lines show where to add “Go to section based on answer”. Make one form section per coloured bar. Translate into Arabic before use. The date is recorded automatically by Google Forms (timestamp).

One response = one child. If a household has more than one eligible child (12–59 months), submit the form once for each child.

Section 1 of 8 – Consent and identification

Form description / consent statement (add as description text):

Peace be upon you. We are medical students at the University of Dongola conducting a research project about routine childhood vaccination in Dongola City, to understand why some children do not complete their vaccines so that services can be improved. We will ask about you, your family, your child and your child’s vaccines, and may ask to see the vaccination card. The interview takes about 10–15 minutes and there is no risk. Participation is voluntary; you may refuse any question or stop at any time. No names are recorded; answers are confidential and used only for research.

1. Do you agree to participate? *

Multiple choice · Required

- ○ Yes, I agree
- ○ No, I do not agree

Form logic: “No” → Submit form (end).

2. Health unit / area *

Dropdown · Required

- ○ (add the names of the selected health units/areas)

3. Household number *

Short answer (number) · Required

Your answer _____

4. Child number in the household (1, 2, 3 …) *

Short answer (number) · Required

Your answer _____

Section 2 of 8 – A: Caregiver and household

A1. Age of the caregiver (years) *

Short answer (number) · Required

Your answer _____

A2. Education of the mother *
Multiple choice · Required

- ○ Illiterate
- ○ Khalwa (Quranic) only
- ○ Primary
- ○ Secondary
- ○ University and above

A3. Approximate monthly household income (SDG) *
Short answer (number) · Required

Income categories will be defined after the pre-test.

Your answer _____

A4. Number of children under five years in the household *
Short answer (number) · Required

Your answer _____

A5. Residence status of the family *
Multiple choice · Required

- ○ Long-term resident
- ○ Internally displaced (since April 2023)
- ○ Returnee

Section 3 of 8 – B: Child and maternal health service use

B1. Sex of the child *
Multiple choice · Required

- ○ Male
- ○ Female

B2. Age of the child (months) *
Short answer (number) · Required

Number validation: between 12 and 59.

Your answer _____

B3. Place of birth *
Multiple choice · Required

- ○ Health facility
- ○ Home
- ○ Other

B4. Number of antenatal care visits during pregnancy with this child *
Multiple choice · Required

- ○ None
- ○ 1–3 visits
- ○ Four or more

Section 4 of 8 – C: Immunization status

C1. Does the child have an EPI vaccination card? *

Multiple choice · Required

- ○ Yes, card seen
- ○ Yes, but not seen
- ○ Lost
- ○ Never had a card

C2. Record the vaccines received (from the card, or from the caregiver's recall if there is no card) *

Multiple-choice grid · Required (one answer per row)

The list must match the current national EPI schedule (to be verified with the Northern State EPI office before data collection).

	Received (card)	Received (recall)	Not received
BCG	○	○	○
OPV (all doses due)	○	○	○
IPV	○	○	○
Pentavalent (all doses due)	○	○	○
PCV (all doses due)	○	○	○
Rotavirus (all doses due)	○	○	○
Measles / MR (all doses due)	○	○	○

C3. Is a BCG scar present? (only if no card)

Multiple choice · Optional

- ○ Yes
- ○ No

C4. Immunization status (completed by the researcher) *

Multiple choice · Required

- ○ Complete
- ○ Incomplete – partially immunized
- ○ Zero-dose

Form logic: "Complete" → skip C5 and go to Section 5.

C5. If incomplete: why did the child miss vaccines?

Checkboxes · Optional

Tick all that apply.

- ☐ Fear of side effects
- ☐ Not aware of the need
- ☐ Did not know when/where to return
- ☐ Child was sick
- ☐ Health facility too far
- ☐ Vaccine not available
- ☐ Health worker absent / session cancelled / long waiting
- ☐ Payment demanded/cost
- ☐ Family objection
- ☐ Insecurity/displacement
- ☐ Other (add "Other" option with text)

Section 5 of 8 – D: Caregiver knowledge

D1–D6. Caregiver knowledge (please answer each statement) *

Multiple-choice grid · Required (one answer per row)

	Yes	No	Don't know
D1. Vaccines protect children from serious diseases.	○	○	○
D2. A child should start vaccination at birth.	○	○	○
D3. Do you know when the next vaccine dose is due for your child?	○	○	○
D4. A child with mild fever or cough can still be vaccinated.	○	○	○
D5. Routine vaccination in government facilities should be free of charge.	○	○	○
D6. Vaccines cause infertility later in life.	○	○	○

Section 6 of 8 – E: Perception and attitude

E1–E4. Please tell us how much you agree with each statement *

Multiple-choice grid · Required (one answer per row)

	Agree	Neutral	Disagree
E1. Vaccines are safe and useful for my child.	○	○	○
E2. I trust the health workers who give vaccines.	○	○	○
E3. I am worried about the side effects of vaccines.	○	○	○
E4. Community and religious leaders in my area support vaccination.	○	○	○

Section 7 of 8 – F: Health service and access

F1. Time taken to reach the nearest immunization site *

Multiple choice · Required

- ○ Less than 30 minutes
- ○ 30–60 minutes
- ○ More than 60 minutes

F2. Was the vaccine ever unavailable when you went for vaccination? *

Multiple choice · Required

- ○ Yes
- ○ No

F3. Was the vaccinator absent or the session cancelled when you went? *

Multiple choice · Required

- ○ Yes
- ○ No

F4. Usual waiting time at the vaccination site *
Multiple choice · Required

- ○ Less than 30 minutes
- ○ 30–60 minutes
- ○ More than 60 minutes

F5. Are the vaccination days and hours convenient for you? *
Multiple choice · Required

- ○ Yes
- ○ No

F6. Did you ever pay money for vaccination or for the vaccination card? *
Multiple choice · Required

- ○ Yes
- ○ No

F7. How do you describe the attitude of the health workers at the vaccination site? *
Multiple choice · Required

- ○ Respectful
- ○ Neutral
- ○ Disrespectful

F8. Did a health worker or volunteer visit you or remind you about your child’s vaccination? *
Multiple choice · Required

- ○ Yes
- ○ No

F9. Was there an outreach session or vaccination campaign in your area in the last 12 months? *
Multiple choice · Required

- ○ Yes
- ○ No
- ○ Don’t know

F10. Main source of information about routine vaccination in the last 12 months *
Multiple choice · Required

- ○ Health facility
- ○ Radio
- ○ Television
- ○ Social media
- ○ Relatives/neighbours
- ○ Mosque/church
- ○ Community meeting
- ○ Other
- ○ No information received

Section 8 of 8 – G: Household decision-making

G1. Who usually decides whether the child is vaccinated? *

Multiple choice · Required

- ○ Mother alone
- ○ Father alone
- ○ Both parents
- ○ Grandparents/other relatives

G2. Does the father help with vaccination (transport, cost, accompanying the mother)? *

Multiple choice · Required

- ○ Yes
- ○ No

G3. Can you take your child to the health facility without needing permission? *

Multiple choice · Required

- ○ Yes
- ○ No

Confirmation message (Form settings → Presentation): Thank you for your cooperation.

Researcher notes – not part of the form

Knowledge score (D1–D6): correct = 1; wrong or “Don’t know” = 0. Total = __ / 6. Good knowledge = score ≥ the mean of all respondents.

Item	Correct answer
D1	Yes
D2	Yes
D3	Yes
D4	Yes
D5	Yes
D6	No

Perception score (E1–E4): positive statements (E1, E2, E4): Agree = 2, Neutral = 1, Disagree = 0. The negative statement (E3) is reversed: Disagree = 2, Neutral = 1, Agree = 0. Total = __ / 8. Positive perception = score ≥ the mean.

Outcome (dependent variable): complete = 0, incomplete = 1 (incomplete = missed at least one dose due for the child’s age, including zero-dose and partially immunized; zero-dose = no routine vaccine received).

Google Forms tips: keep “Collect email addresses” off (no identifying data); set Required on every starred question; use number validation for A1, A3, A4 and B2 (12–59); link the form to Google Sheets and export to SPSS (CSV).