Questionnaire

Burning Feet Syndrome among Adults in Ombada Locality, Omdurman, Sudan, during the Ongoing Armed Conflict

Study tool for ethical approval and field data collection

Study title	Neuropathic Manifestations and Nutritional Correlates of Burning Feet Syndrome among Adults in Ombada Locality, Omdurman, Sudan, during the Ongoing Armed Conflict
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Institution / Affiliation	**:** University of Khartoum faculty of Medicine - EDC - Khartoum, Sudan
Study site	Ombada locality, Omdurman, Khartoum State, Sudan
Questionnaire ID	_____
Date of interview	____ / ____ / _____

Introduction for Participants

Dear participant,

We are conducting a research study to understand burning feet symptoms among adults in Ombada locality during the current conflict in Sudan. Burning feet may include burning pain, heat sensation, tingling, numbness, or discomfort in the feet. The study aims to explore symptoms, severity, possible nutritional factors, and healthcare access among affected individuals.

Your participation is voluntary. You may refuse to participate or stop at any time. Your answers will remain confidential and will be used only for research purposes. No personal identifying information will be published. The questionnaire will take approximately 10–15 minutes.

Section 1: Consent

1. Have you understood the purpose of this study?

☐ Yes

☐ No

2. Do you agree to participate voluntarily?

☐ Yes

☐ No

If the answer is No, stop the questionnaire.

Section 2: Socio-Demographic Characteristics

3. Age in years: _____

4. Sex:

☐ Male

☐ Female

5. Marital status:

☐ Single

☐ Married

☐ Divorced

☐ Widowed

6. Educational level:

☐ No formal education

☐ Primary education

☐ Secondary education

☐ University or higher

☐ Other: _____

7. Occupation:

☐ Unemployed

☐ Housewife

☐ Student

☐ Daily worker

☐ Farmer

☐ Employee

☐ Self-employed

☐ Other: _____

8. Current residence area in Ombada: _____

9. Have you been displaced due to the current conflict?

☐ Yes

☐ No

10. If yes, displacement status:

☐ Displaced within Ombada

☐ Displaced from another area to Ombada

☐ Temporarily displaced and returned

☐ Other: _____

11. Number of people currently living in your household:

_____

12. Average monthly household income:

☐ No fixed income

☐ Less than 50,000 SDG

☐ 50,000–100,000 SDG

☐ 101,000–200,000 SDG

☐ More than 200,000 SDG

☐ Prefer not to answer

Section 3: Conflict-Related Living Conditions

13. Since the start of the war, has your access to food changed?

☐ No change

☐ Mildly reduced

☐ Moderately reduced

☐ Severely reduced

14. How many meals do you usually eat per day?

☐ One meal

☐ Two meals

☐ Three meals

☐ More than three meals

15. During the past month, did you skip meals because of lack of food or money?

☐ Never

☐ Sometimes

☐ Often

☐ Always

16. During the past month, did you reduce the amount of food because of lack of food or money?

☐ Never

☐ Sometimes

☐ Often

☐ Always

17. During the past month, did your household run out of food?

☐ Never

☐ Sometimes

☐ Often

☐ Always

18. Since the start of the war, has your access to healthcare changed?

☐ No change

☐ Mildly reduced

☐ Moderately reduced

☐ Severely reduced

19. Main barriers to healthcare access:

Select all that apply:

☐ Cost of treatment

☐ Lack of transportation

☐ Insecurity

☐ Health facility closed

☐ Lack of medicines

☐ Distance

☐ Long waiting time

☐ No doctor available

☐ Other: _____

Section 4: Burning Feet Symptoms

20. Do you currently have burning sensation, heat, tingling, numbness, or pain in your feet?

☐ Yes

☐ No

If No, skip to Section 9 unless the study includes comparison participants.

21. When did the burning feet symptoms start?

☐ Less than 1 month ago

☐ 1–3 months ago

☐ 4–6 months ago

☐ 7–12 months ago

☐ More than 1 year ago

22. Approximate duration of symptoms in months:

_____

23. Which foot is affected?

☐ Right foot only

☐ Left foot only

☐ Both feet

24. Where do you feel the symptoms mostly?

☐ Toes

☐ Sole of foot

☐ Heel

☐ Whole foot

☐ Feet and legs

☐ Other: _____

25. What type of sensation do you feel?

Select all that apply:

☐ Burning

☐ Heat sensation

☐ Tingling

☐ Numbness

☐ Pins and needles

☐ Electric shock-like pain

☐ Cramping

☐ Itching

☐ Other: _____

26. Are the symptoms worse at night?

☐ Yes

☐ No

27. Are the symptoms worse during the day?

☐ Yes

☐ No

28. Are the symptoms continuous or intermittent?

☐ Continuous

☐ Intermittent

☐ Not sure

29. Does walking make the symptoms worse?

☐ Yes

☐ No

☐ Not sure

30. Does rest improve the symptoms?

☐ Yes

☐ No

☐ Not sure

31. Do symptoms change with temperature, such as heat or cold?

☐ Yes

☐ No

☐ Not sure

32. What makes the symptoms worse?

Select all that apply:

☐ Heat

☐ Cold

☐ Walking

☐ Standing for long time

☐ Night time

☐ Stress

☐ Hunger

☐ Nothing specific

☐ Other: _____

33. What relieves the symptoms?

Select all that apply:

☐ Cold water

☐ Rest

☐ Massage

☐ Painkillers

☐ Vitamins

☐ Traditional treatment

☐ Nothing

☐ Other: _____

Section 5: Pain Severity and Functional Impact

34. On a scale from 0 to 10, how severe is your average burning feet pain? Average pain score:
_____

35. On a scale from 0 to 10, what is the worst pain you experienced? Worst pain score:
_____

36. During the past week, how often did you feel burning feet symptoms?

☐ Never

☐ 1–2 days

☐ 3–4 days

☐ 5–6 days

☐ Every day

37. Do the symptoms disturb your sleep?

☐ Never

☐ Sometimes

☐ Often

☐ Always

38. Do the symptoms affect your ability to walk?

☐ Not at all

☐ Mildly

☐ Moderately

☐ Severely

39. Do the symptoms affect your daily activities?

☐ Not at all

☐ Mildly

☐ Moderately

☐ Severely

40. Do the symptoms affect your mood or psychological wellbeing?

☐ Not at all

☐ Mildly

☐ Moderately

☐ Severely

Section 6: Associated Neurological Symptoms

41. Do you have numbness in the feet?

☐ Yes

☐ No

42. Do you have tingling or pins and needles?

☐ Yes

☐ No

43. Do you feel weakness in your legs?

☐ Yes

☐ No

44. Do you have difficulty maintaining balance?

☐ Yes

☐ No

45. Do you feel similar symptoms in your hands?

☐ Yes

☐ No

46. Do you have back pain associated with leg symptoms?

☐ Yes

☐ No

47. Do you have increased sensitivity to touch, such as pain from light touch or bed sheets?

☐ Yes

☐ No

48. Do you have reduced ability to feel hot or cold objects with your feet?

☐ Yes

☐ No

☐ Not sure

Section 7: Nutritional and Dietary Assessment

49. Since the start of the war, has your food intake decreased?

☐ Yes

☐ No

50. Have you experienced unintentional weight loss since the start of the war?

☐ Yes

☐ No

☐ Not sure

51. If yes, approximate weight loss:

☐ Less than 5 kg

☐ 5–10 kg

☐ More than 10 kg

☐ Not sure

52. How often do you eat meat, chicken, fish, or eggs?

☐ Daily

☐ 3–6 times per week

☐ 1–2 times per week

☐ Less than once per week

☐ Rarely or never

53. How often do you consume milk or dairy products?

☐ Daily

☐ 3–6 times per week

☐ 1–2 times per week

☐ Less than once per week

☐ Rarely or never

54. How often do you eat fruits?

☐ Daily

☐ 3–6 times per week

☐ 1–2 times per week

☐ Less than once per week

☐ Rarely or never

55. How often do you eat vegetables?

☐ Daily

☐ 3–6 times per week

☐ 1–2 times per week

☐ Less than once per week

☐ Rarely or never

56. How often do you eat legumes, such as beans, lentils, or broad beans?

☐ Daily

☐ 3–6 times per week

☐ 1–2 times per week

☐ Less than once per week

☐ Rarely or never

57. Do you currently take vitamin supplements?

☐ Yes

☐ No

58. If yes, which supplements?

Select all that apply:

☐ Vitamin B complex

☐ Vitamin B12

☐ Multivitamin

☐ Iron

☐ Folic acid

☐ Vitamin D

☐ Other: _____

☐ Not sure

59. Have you received nutritional support or food aid during the past month?

☐ Yes

☐ No

60. If yes, from whom?

☐ Family or relatives

☐ Neighbors

☐ Charity group

☐ Local organization

☐ International organization

☐ Other: _____

Section 8: Medical History and Risk Factors

61. Have you ever been diagnosed with diabetes mellitus?

☐ Yes

☐ No

☐ Not sure

63. Have you ever been diagnosed with hypertension?

☐ Yes

☐ No

☐ Not sure

64. Have you ever been diagnosed with kidney disease?

☐ Yes

☐ No

☐ Not sure

65. Have you ever been diagnosed with thyroid disease?

☐ Yes

☐ No

☐ Not sure

66. Have you ever been diagnosed with anemia?

☐ Yes

☐ No

☐ Not sure

67. Have you ever been diagnosed with vitamin B12 deficiency?

☐ Yes

☐ No

☐ Not sure

68. Have you ever had similar burning feet symptoms before the war?

☐ Yes

☐ No

☐ Not sure

62. If diagnosed with diabetes, are you currently taking diabetes medication?

☐ Yes

☐ No

☐ Sometimes

69. Are you currently pregnant?

☐ Yes

☐ No

☐ Not applicable

70. Do you smoke?

☐ Yes

☐ No

☐ Former smoker

71. Do you consume alcohol?

☐ Yes

☐ No

72. Have you taken any of the following medications for a long period?

Select all that apply:

☐ Anti-tuberculosis medications

☐ Chemotherapy

☐ Antiretroviral therapy

☐ Metronidazole

☐ Isoniazid

☐ Unknown medications

☐ None

☐ Other: _____

Section 9: Systemic Symptoms

73. During the past month, have you experienced unusual fatigue?

☐ Yes

☐ No

74. During the past month, have you experienced dizziness?

☐ Yes

☐ No

75. During the past month, have you experienced palpitations?

☐ Yes

☐ No

76. During the past month, have you experienced shortness of breath?

☐ Yes

☐ No

77. During the past month, have you experienced swelling of the feet or legs?

☐ Yes

☐ No

78. During the past month, have you experienced muscle cramps?

☐ Yes

☐ No

79. During the past month, have you experienced loss of appetite?

☐ Yes

☐ No

80. During the past month, have you experienced persistent sadness, anxiety, or psychological stress?

☐ Yes

☐ No

81. During the past month, have you experienced fever or recent infection?

☐ Yes

☐ No

Section 10: Health-Seeking Behavior and Treatment

82. Have you sought medical care for the burning feet symptoms?

☐ Yes

☐ No

83. If no, why not?

Select all that apply:

☐ Symptoms not severe

☐ Cost

☐ No transportation

☐ Insecurity

☐ No available doctor

☐ Health facility closed

☐ I used home treatment

☐ I did not know where to go

☐ Other: _____

84. If yes, where did you seek care?

☐ Government health facility

☐ Private clinic

☐ Pharmacy

☐ Traditional healer

☐ Community health worker

☐ Other: _____

85. Were any investigations done?

☐ Yes

☐ No

☐ Not sure

86. If yes, which investigations?

Select all that apply:

☐ Blood sugar

☐ Complete blood count

☐ Kidney function test

☐ Vitamin B12 level

☐ Thyroid function test

☐ Nerve test

☐ Other: _____

☐ Not sure

87. What treatments have you used for burning feet?

Select all that apply:

☐ Painkillers

☐ Vitamin B complex

☐ Vitamin B12

☐ Gabapentin or pregabalin

☐ Diabetes medications

☐ Topical creams

☐ Traditional remedies

☐ Cold water

☐ No treatment

☐ Other: _____

88. Did the treatment improve your symptoms?

☐ No treatment used

☐ No improvement

☐ Mild improvement

☐ Moderate improvement

☐ Complete improvement

89. Are you currently able to access the medicines you need?

☐ Yes

☐ No

☐ Sometimes

90. Main reason for difficulty accessing medicine:

☐ High cost

☐ Medicine unavailable

☐ Insecurity

☐ Transportation problem

☐ Health facility closed

☐ Other: _____

☐ Not applicable

Section 11: Anthropometric Measurements — If Feasible

91. Weight in kg: _____

92. Height in cm: _____

93. Body Mass Index, if calculated: _____

94. Mid-upper arm circumference, if available: _____

95. General nutritional appearance by interviewer:

☐ Normal

☐ Mildly undernourished

☐ Moderately undernourished

☐ Severely undernourished

☐ Not assessed

Section 12: Optional Clinical Screening — If Feasible

96. Random blood sugar, if available: _____

97. Hemoglobin level, if available: _____

98. Blood pressure, if available: _____

99. Foot examination findings:

Select all that apply:

☐ Normal

☐ Dry skin

☐ Cracks or fissures

☐ Ulcer

☐ Swelling

☐ Reduced sensation

☐ Not examined

☐ Other: _____

100. Ability to feel light touch on the foot:

☐ Normal

☐ Reduced

☐ Absent

☐ Not assessed

101. Ability to feel vibration, if tuning fork available:

☐ Normal

☐ Reduced

☐ Absent

☐ Not assessed

Section 13: Participant's Perspective

102. What do you think caused your burning feet symptoms?

_____

_____

_____

103. What is the main difficulty caused by these symptoms in your life?

_____

_____

_____

104. What type of help or support do you think you need?

_____

_____

_____

Section 14: Data Collector Information

105. Questionnaire ID: _____

106. Date of interview: _____

107. Name/code of data collector: _____

108. Method of data collection:

☐ Face-to-face interview

☐ Phone interview

☐ Self-administered

☐ Other: _____

109. Data collector notes:

_____

_____

_____

_____

Suggested Scoring System for Analysis

A. Severe Burning Pain

☐ 0–3 = Mild pain

☐ 4–6 = Moderate pain

☐ 7–10 = Severe pain

B. Neuropathic Symptom Burden Score

Give 1 point for each Yes answer. Total score range: 0–10.

☐ Burning sensation

☐ Tingling or pins and needles

☐ Numbness

☐ Night symptoms

☐ Temperature-sensitive pain

☐ Electric shock-like pain

☐ Increased sensitivity to touch

☐ Similar symptoms in hands

☐ Reduced hot/cold sensation

☐ Balance difficulty

Suggested categories: 0–3 low, 4–6 moderate, 7–10 high neuropathic symptom burden.

C. Nutrition Stress Score

Give 1 point for each indicator. Total score range: 0–10.

☐ Food intake decreased since the war

☐ Skipping meals due to lack of food or money

☐ Reducing food amount due to lack of food or money

☐ Household ran out of food

☐ Eating one meal per day

☐ Unintentional weight loss

☐ Rare or no animal-source food intake

☐ Rare or no fruit intake

☐ Rare or no vegetable intake

☐ No access to nutritional support

Suggested categories: 0–3 low, 4–6 moderate, 7–10 high nutritional stress.

D. Systemic Symptom Burden Score

Give 1 point for each Yes answer. Total score range: 0–9.

☐ Fatigue

☐ Dizziness

☐ Palpitations

☐ Shortness of breath

☐ Swelling of feet or legs

☐ Muscle cramps

☐ Loss of appetite

☐ Psychological stress

☐ Fever or recent infection

Suggested categories: 0–2 low, 3–5 moderate, 6–9 high systemic symptom burden.

E. Healthcare Access Difficulty Score

Give 1 point for each barrier reported. Total score range: 0–8.

☐ Cost

☐ Transportation

☐ Insecurity

☐ Closed facility

☐ Lack of medicines

☐ Distance

☐ No doctor available

☐ Long waiting time

Suggested categories: 0–2 low, 3–5 moderate, 6–8 high access difficulty.