

## Supplementary Figure S1

### Title: Questionnaire on Knowledge, Attitudes, and Perceptions Toward Artificial Intelligence-Based Medication Adherence Tools Among Jordanian Patients with Chronic Diseases

**Note for reviewers/readers:** The original questionnaire was developed and administered in Arabic.

**Supplementary Figure S1.** Full Arabic questionnaire used in this study to assess sociodemographic characteristics, health-related information, knowledge, attitudes, and perceptions toward artificial intelligence-based medication adherence tools among Jordanian patients with chronic diseases. The instrument is presented in its English-translated format for reporting purposes.

#### Section 1: Sociodemographic Information

1. Age (years): \_\_\_\_\_
2. Gender:  Male  Female
3. Education level:  Primary/Secondary school  Diploma  University degree or higher
4. Monthly household income (JOD):  <500  500–999  ≥1000
5. Governorate of residence: (dropdown: Amman, Irbid, Zarqa, Balqa, Karak, Other)
6. Employment status:  Employed  Unemployed  Retired  Other
7. Do you own a smartphone capable of installing health apps?  Yes  No
8. How would you rate your ability to use digital technologies (such as smartphones or health applications)?  Limited ability  Moderate ability  High / advanced ability

#### Section 2: Health Information

9. Which chronic disease(s) do you have? (select all that apply)  Hypertension  Diabetes mellitus  Dyslipidemia  Asthma  Cardiovascular disease  Thyroid disorders  Other (please specify)
10. How many chronic medications do you take daily?  1  2–4  ≥ 5

#### Section 3: Knowledge About AI in Medication Adherence (8 items)

Please indicate your level of agreement with each statement regarding potential applications of artificial intelligence in medication adherence.

**Response options:**

1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree

*(For analysis, responses indicating agreement (agree or strongly agree) were coded as correct (1), while neutral or disagreement responses were coded as incorrect or uncertain (0). Total knowledge score range: 0–8; ≥5 indicates good knowledge.)*

1. AI applications can remind me to take my medications on time.  
 Strongly disagree  Disagree  Neutral  Agree  Strongly agree
2. AI can provide educational information about my medications and how to use them.  
 Strongly disagree  Disagree  Neutral  Agree  Strongly agree
3. AI-based applications can be used to monitor whether I am taking my medications as prescribed.  
 Strongly disagree  Disagree  Neutral  Agree  Strongly agree
4. AI-based applications can help manage prescription refills.  
 Strongly disagree  Disagree  Neutral  Agree  Strongly agree
5. AI applications can be used to follow up with my health center or clinic.  
 Strongly disagree  Disagree  Neutral  Agree  Strongly agree
6. AI can make personalized treatment recommendations.  
 Strongly disagree  Disagree  Neutral  Agree  Strongly agree
7. AI can predict adverse drug reactions.  
 Strongly disagree  Disagree  Neutral  Agree  Strongly agree
8. AI can forecast potential future instances of medication non-adherence.  
 Strongly disagree  Disagree  Neutral  Agree  Strongly agree

**Section 4: Attitudes Toward AI in Medication Adherence (7 items)**

Please indicate your level of agreement with the following statements.

**Response options:**

1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree

*(Mean score ≥3.5 indicates a positive attitude.)*

1. I think that the use of AI would improve my medication adherence.

Strongly disagree  Disagree  Neutral  Agree  Strongly agree

2. I would like my medication adherence to be supported by AI tools.

Strongly disagree  Disagree  Neutral  Agree  Strongly agree

3. I am not very concerned about the technical accuracy of AI.

Strongly disagree  Disagree  Neutral  Agree  Strongly agree

4. I would trust AI recommendations more than my doctor's advice.

Strongly disagree  Disagree  Neutral  Agree  Strongly agree

5. I am afraid that AI technical failures could lead to wrong decisions.

Strongly disagree  Disagree  Neutral  Agree  Strongly agree

6. I have concerns about the privacy and security of my medication data.

Strongly disagree  Disagree  Neutral  Agree  Strongly agree

7. AI can be integrated into the healthcare system in Jordan.

Strongly disagree  Disagree  Neutral  Agree  Strongly agree

### **Section 5: Perceptions Toward AI in Medication Adherence (6 items)**

Please indicate your level of agreement with the following statements.

#### **Response options:**

1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree

*(Mean score  $\geq 3.5$  indicates high perception.)*

1. Using AI to support medication adherence could bring about positive changes.

Strongly disagree  Disagree  Neutral  Agree  Strongly agree

2. AI for medication adherence would be a useful addition to existing services.

Strongly disagree  Disagree  Neutral  Agree  Strongly agree

3. AI tools for adherence could improve the overall quality of patient care.

Strongly disagree  Disagree  Neutral  Agree  Strongly agree

4. Using AI in adherence may reduce the amount of personal interaction with my healthcare provider.

Strongly disagree  Disagree  Neutral  Agree  Strongly agree

5. AI could negatively affect my autonomy or sense of control over my treatment.

Strongly disagree  Disagree  Neutral  Agree  Strongly agree

6. Patients will have reservations if AI replaces, rather than supports, healthcare professionals.

Strongly disagree  Disagree  Neutral  Agree  Strongly agree

**End of Questionnaire**

Thank you for participating.