**Pilot 3**

**Design of HCAP instrument**

Regarding the measurement of cognition, we are fortunate not only to have HRS-HCAP and SHARE-HCAP as templates, but also the implementation of HCAP as part of the Lebanese L’SAHA study.

# **L’SAHA-HCAP**

 In order to maximize comparability with this study, we will use exactly the same items. It includes about one hour of respondent cognitive testing and a twenty-minute informant interview, both of which can be administered in the home or care facilities by survey interviewers with advanced training. The respondent questionnaire covers five broad domains of cognitive functions (orientation, executive functioning, language/fluency, memory, and visuospatial batteries). The informant questionnaire includes six items. The L’SAHA-HCAP items are displayed in **Table 3:**

**Respondent questionnaire:**

1- Cognitive Assessment Module (CG); 2- The Community Screening Instrument for Dementia (CSI-D);
3- Word List Learning - Delayed Recall; 4- Verbal Fluency Test (FAS); 5- GO/NO-GO test; 6- Delayed Story Recall; 7- Problem solving/judgement (extracted from MOCA)

**Informant questionnaire:**

1- Informant demographics module (IDM); 2- Time spent with elderly; 3- Short Form of the Informant Questionnaire on Cognitive Decline among the Elderly (IQ); 4- Blessed Dementia Rating scale part 2; 5- Informant Community screening interview for dementia (IF); 6- Blessed Dementia Rating scale part 1

Our preliminary work was therefore focused on adapting the L’SAHA instrument to Egyptian Arab and to validate this adaptation on a sample of Egyptians.

# **Cultural adaptation of the L’SAHA-HCAP**

Both respondent and family/friends instrument have been adapted by a team of psychiatrists and through several stakeholders and target population meetings. The cultural adaptation of psychiatric tests has always been a challenge for Arabic test versions since the literal translation into Arabic normally does not respect the cultural difference between populations. Hence, a photo of a specific animal that is common in western countries might not be valid in the Arabic region; some political or historical incidents may need to be replaced by similar events with the same weight in the MENA region; and the level of education, perception and general culture varies. Each of these factors will be reflected in the test results and require specific adaptation before administration. We arranged a set of meetings with stakeholders to obtain culturally acceptable and valid tests. They included Egyptian psychiatrists who have screened the test batteries and evaluated the presence of a valid Arabic version of some tests and the need for a validated Egyptian version for others. In addition, we involved the PI of L’SAHA-HCAP, Dr. Monique Shayaa from the American University in Beirut. The team is collaborating with the project consultant Dr. Kenneth Langa (U. Michigan ), the PI for HRS-HCAP and its application in other HRS-ATW studies.

# **Validation of AL-SEHA-HCAP**

Based on the Egyptian research dementia registry (Egyptian Dementia Network, EDN) established by Dr. Salama and supported by the EXAF program (EPFL, Switzerland) and the APPLE program (Academy of Scientific Research and Technology, Egypt), we recruited 300 subjects with different degrees of cognitive impairment as per clinical diagnosis (Normal, MCI, early dementia, and severe dementia) and assessed them using the AL-SEHA-HCAP version. The value of the EDN is to provide access to clinically diagnosed patients from different geographic locations in Egypt with accurate clinical diagnoses by consultant psychiatrists. They were recruited from three distinct sites, representing key regions in Egypt: Ain Shams Geriatric Hospital in Cairo, Outpatient Clinics in Mansoura University Teaching Hospital in Mansoura, and outpatient clinics in Beni Suef University Teaching Hospital in Beni Suef. Both the participant and informant questionnaires demonstrated excellent completion rates, with the former averaging 45 minutes and the latter taking approximately 25 minutes (either face to face or by phone). Of the 180 subjects enrolled, clinical assessments by psychiatrists and neurologists revealed a distribution of cognitive impairments as follows: 55% categorized as normal, 25% with Mild Cognitive Impairment (MCI), 15% diagnosed with early dementia, and 5% with severe dementia. The gender distribution closely mirrored the overall demographics, with 99 males (55%) and 81 females (45%). Age-wise, the participants were divided into three groups: 40% were aged 55-64, 45% fell within the 65-74 age range, and 15% were aged 75+.