

**APPENDIX 2. BRIEF DESCRIPTION OF STRUCTURED ASD REMOTE DIAGNOSIS TOOLS (RIVA ET AL. [29]; TALBOTT ET AL. [34]; KRYSZAK ET AL. [36]; BERGER ET AL. [37]):**

- 1. The Naturalistic Observation Diagnostic Assessment (NODA)** is based on home video recordings made according to specific instructions in a range of everyday situations (eating with family members, playing together, playing alone, hygiene, and other parental care). Technically, the tool consists of a NODA smartCapture mobile phone application for creating video recordings and a NODA Connect web portal for video clips to be analyzed by specialists and correlated with DSM-5 ASD criteria in the context of a child's developmental history.
- 2. The Systematic Observation of Red Flags (SORF)** also based on the correlation of video recordings of child behavior and interaction with parents in the home environment in the age range of 16 to 24 months. Home videos lasting 30 minutes or more should illustrate five everyday situations: playing with toys, playing with people, eating, hygiene care, and doing housework/family chores. Twenty-two red flags of autism are assessed based on the DSM-5 diagnostic criteria.
- 3. Brief Observation of Symptoms of Autism (BOSA).** The tool was developed in the laboratory of the UCLA Center for Research and Treatment of Autism (University of California, Los Angeles) and can be used both in synchronous and asynchronous TMC, respectively, includes an analysis of the interaction between parents and children observed here and now on videoconferencing or analyzed on video recordings 12–14 minutes long [66]. The tool is an adaptation of ADOS-2 by the same research team (Lord C. et al.) and **BOSCC**, Brief Observation of Social Communication Change [67]. The BOSA-MV (minimal verbal) option is applicable to children of all ages and lasts a fixed 12 minutes. The actions of accompanying persons have a set duration, sequence, and a set of toys similar to ADOS-2. The use of BOSA requires certification of experts in the use of ADOS-2 for clinical and research purposes. It is also recommended to supplement the remote assessment using BOSA with other standardized tools, ADI-R, CARS-2, adaptive behavior, and cognition assessment tools.
- 4. The Telehealth Evaluation of Development for Infants (TEDI).** According to the protocol, parents conduct 10 semi-structured play interactions to assess social contact, play, imitation, and other behaviors following verbal instructions and based on The Communication Play Protocol (**CPP**) “cue cards” [68], 5 of which are taken from The Autism Observation Scale for Infants (**AOSI**) [69].
- 5. The Autism Detection in Early Childhood — Virtual (ADEC-V),** which uses the offline Autism Detection in Early Childhood (**ADEC**) for children under 3 years of age [70]. Modifications to the original tool included the wording of instructions for parents in the assessed structured situations and feedback on parental observations about details of behavior that are not readily available for direct recording via a webcam (for example, eye contact features).
- 6. Observation of Play Screener: Home Edition (OOPS-HE)** [71]. Developed at the Oregon Health Science University, it is a home-based TMC version of the OOPS methodology (Nickel, 1997) that was proposed as a training tool for primary care pediatricians to study typical behavioral characteristics of young children with ASD. The assessment lasts about 30 minutes, consists of 12 items for monitoring the child's social reactions, the ability to take turns, make requests, use imitation, and the formation of play activities. The tool is used in combination with a conversation with an accompanying adult and watching videos of daily household activities at home (for example, eating, dressing).
- 7. Autism Spectrum Disorder — Diagnostic Interview and Activities — Lifespan, Version 2 (ASD-DIAL)** [72], was developed at the Philadelphia Children's Hospital Center for Autism Research during the COVID-19 pandemic. The ASD-DIAL module “for toddlers” provides an opportunity to assess symptoms regardless of the level of speech development. Ten items are used to assess manifestations of social responsiveness, turn-taking, requesting, imitation, and play. The assessment takes from 30 to 60 minutes; the materials are what most families are likely to have (blocks, toy cars, soap bubbles). The ASD-DIAL is based on the DSM-5 diagnostic criteria for ASD and is also recommended for use in conjunction with other sources of information such as parent interviews, viewing videos of the child's behavior, and the CARS-2 Childhood Autism Rating Scale.

8. **Adapted Virtual Autism Behavior Observation (A-VABO)** [73]. Developed at the National Children’s Hospital (Columbus, Ohio) as part of a multi-stage, interdisciplinary protocol for remote assessment of ASD. Includes 15 items to assess the child’s reaction to social stimuli, games, imitation, communicative actions, and registration of repetitive/stereotypical behavior. Each position has a set duration and number of repetitions in accordance with the instructions, as well as a regulated scenario for the actions of the accompanying adult. It is recommended to supplement it with other assessment methods (level of speech development, clinical interview, DP-3 [74], CARS-2 [59]).
9. **TELE-ASD-PEDS (TAP)**. The tool was developed for remote assessment of ASD in children without phrasal speech under the age of 3 years with the mediation of accompanying adults at the TRIAD Medical Center of Vanderbilt University (Nashville, TN). The tool components with the highest predictive value for young children were selected using machine learning technology from a database of several hundred people with ASD and a reference control group. The TAP takes about 20 minutes and consists of 10 items, assessing social reactions, taking turns, making requests, and features of spontaneous and adult-organized games (for example, hide-and-seek, tickling, soap bubbles).