

## Representation of Phonemic Changes in Arabic Dialect of Yemen: Speech Disorder and Consonant Substitution

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**Abstract :** Introduction: Like many dialects, the Arabic dialect of Yemen (ADY) exhibited utterance phonemic distinction- vowel deletion, lengthening, and insertion- that were investigated using speakers from different dialectal backgrounds, with particular focus on the difference typically developing and achieving speakers and those suffering linguistic problems make. Phonological variations were found to be inevitable, suggesting further investigation of consonants to see to what extent they are prone to such phonemic changes. This study investigates the patterns of consonant substitution in ADY by examining if there is a clear-cut line between normal and pathological consonants to decide which of these consonants is substituted more. Methods: A total of hundred and twenty nine Yemeni male participants (age= 6-13) were enrolled in this study. Participants were preassigned into two groups (Articulation disorders (AD) group= 42 and typically developing and achieving group (TD) = 70), each of which consists of five sub-groups in decided sociolinguistic classification. In a 45 minute-session, 180 pictures of commonly used verbs (4 pics/m.) were presented to participants who were asked to impulsively describe these verbs before their production was psychoneurologically and statistically analyzed. Results: There was a pattern of consonant substitution in some dialects that participants from both groups have in common: Voiceless consonants (/t/, /s/, /s/, /h/, /k/, /ʃ/, /f//, and /k/) in northern and eastern dialects; voiced consonants (/q/, /gh/, /ʒ/, /g/, /d/, /b/, and /d/) in southern, eastern, western and central dialects; and voiceless and voiced consonants (/t/, /f/, /θ/, /s/, /s/, /q/, /gh/, /ʒ/, /g/, /d/, and /b/) in southern dialect. Voiceless consonants (/t/, /s/, /s/, /h/, /k/, /ʃ/, /f//, /θ/and /k/) found to be substituted more by ADY speakers of both AD and TD groups followed by voiced consonants (/q/, /gh/, /ʒ/, /g/, /d/, /d/ /b/, and /ð/), nasals (/m/, /n/), mute (/h/), semi-vowels (/w/ and /j/) and laterals (/l/ and /r/). Unexpectedly, a short vowel (/æ/) and two long vowels (/u: and /a:/) were found to substitute consonants in ADY both by AD and TD participants. Conclusions: AD and TD participants of ADY substitute consonants in their dialectal speech. Consonant substitution processes cover not only consonants but extend to include monophthongs. The finding that speakers of ADY substitute consonants in multisyllabic words is probably due to the fact that the sociolinguistic factor plays a pivotal role in the problematic substitution of consonants in ADY speakers. Larger longitudinal studies are necessary to further investigate the effect of sociolinguistic background on phonological variations, notably sound change in the speech of Yemeni TD speakers compared to those with linguistic impairments.

**Keywords :** consonant substitution, Arabic dialect of Yemen, phonetics, phonology, syllables, articulation disorders

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