

بسم الله الرحمن الرحيم



-C-02-50-2-





شبكة المعلومات الجامعية التوثيق الالكتروني والميكرونيلم





جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات



يجب أن

تحفظ هذه الأقراص المدمجة يعيدا عن الغيار













بالرسالة صفحات لم ترد بالأصل



BIJCJA

Communicative Disorders in Geriatrics

An Essay Submitted for Partial Fulfillment of the Master Degree in Phoniatrics

Tamer Abd El-Sameea Mesallam

M.B., B.Ch.

Resident of Phoniatrics, Menoufia Faculty of Medicine

Supervised By

Prof. Dr. Mohammed Aly Saad Barakah

Professor and Head of Phoniatric Unit Faculty of Medicine - Ain Shams University

Dr. Marwa Mahmoud Saleh

Assistant Professor of Phoniatrics
Faculty of Medicine - Ain Shams University

Dr. Noran Nagdy El Assal

Lecturer of Phoniatrics
Faculty of Medicine - Ain Shams University



Faculty of Medicine Ain Shams University 2001 BIJCJA

Communicative Disorders in Geriatrics

An Essay Submitted for Partial Fulfillment of the Master Degree in Phoniatrics

Tamer Abd El-Sameea Mesallam

M.B., B.Ch.

Resident of Phoniatrics, Menoufia Faculty of Medicine

Supervised By

Prof. Dr. Mohammed Aly Saad Barakah

Professor and Head of Phoniatric Unit Faculty of Medicine - Ain Shams University

Dr. Marwa Mahmoud Saleh

Assistant Professor of Phoniatrics
Faculty of Medicine - Ain Shams University

Dr. Noran Nagdy El Assal

Lecturer of Phoniatrics
Faculty of Medicine - Ain Shams University



Faculty of Medicine Ain Shams University 2001

بسم الله الوحمن الرحيم

قالوا سبحانكلا علم لنا إلا ما علمتنا، إنكأنت العليم الحكيم

صدق الله العظيم

سورة البقرة-الآية:٣٢

Acknowledgment

First and above all, thanks to God, father of all knowledge and wisdom.

I wish to express my deepest gratitude to Prof. Dr. Mohammed Ali Saad Barakah, Professor and Head of Phoniatric Unit, Faculty of Medicine, Ain Shams University for his continuous advice, supervision and encouragement all through this work.

I am faithfully grateful to Dr. Marwa Mahmoud Saleh, Assistant Professor of Phoniatrics, Faculty of Medicine, Ain Shams University for her great help, direction and support.

Also I appreciate very much Dr. Noran Nagdy El-Assal, Lecturer of Phoniatrics, Faculty of Medicine, Ain Shams University for her kind help and assistance.

7amer Mesallam

List of Contents

	Page
Introduction	1
Aim of the Work	5
Aging	6
Effect of Aging on Voice	9
Effect of Aging on Speech	49
Effect of Aging on Language	57
Effect of Aging on Hearing	81
Effect of Aging on Swallowing	104
Summary	125
References	128
Arabic Summary	

List of Tables

		Page
•	Table (1): Mean and standard deviations of	32
	fundamental frequency (in Hz) in elderly subjects.	
•	Table (2): Age-related structural and functional	36
	changes in the laryngeal mechanism and	
	phonation.	
•	Table (3): Comparison of the biomechanical	110
	events during primary and pharyngeal swallow.	
•	Table (4): Postural techniques successful in	120
	eliminating aspiration or residue resulting from	
	various swallowing disorders.	
	Table (5): Swallow maneuvers.	123
•	Table (6): Food consistencies which are easiest	124
	and most difficult for patients with swallowing	
	disorders.	

List of Figures

		Page
•	Fig. (1): Posterior and anterior views of mature	12
	cartilagenous skeleton of the larynx.	
•	Fig. (2): Superior view of the larynx showing	12
	laryngeal cartilages and vocal ligament in a	
	mature man and infant.	
•	Fig. (3): A sample of nods in the semantic and	60
	phonological system.	
•	Fig. (4): Lateral inhibition between lexical units.	64
•	Fig. (5): Examples of prior phonological	70
	processing task.	
•	Fig. (6): Sensory presbycusis in 79 year old male.	89
•	Fig. (7): Neural presbycusis in 81 year old male.	90
	Fig. (8): Strial presbycusis in 72 year old female.	91
•	Fig. (9): Cochlear (conductive) presbycusis in 68	92
	year old male	

List of Abbreviations

C: Cervical vertebra

CAPD: Central auditory processing deficit

CE: Conus elasticus

CHABA: Committee on Hearing, Bioacoustics and

Biomechanics

dB: decibel

EGG: Electroglottography
Fo: Fundamental frequency

GERD: Gastro-esophageal reflux disease

H/N: Harmonic-to-noise ratio

IOPI: Iowa Oral Performance Instrument

kPa: Kilopascals

MPD: Maximum phonation duration

MPFR: Maximum phonation frequency range

OQ: Open quotient

PB: Phonetically balanced

PIPB: Performance-Intensity Function for Phonetically

balanced words

SFo: Speaking fundamental frequency

SL: Sound level SQ: Speed quotient

SSI-ICM: Synthetic sentence identification in the presence of

ipsilateral competition message

T: Thoracic vertebra

TOTs: Tip of the tongue experiences UES: Upper esophageal sphincter

According to *Shindo and Hansen (1990)* vocal disorders are considered a common dysfunction associated with aging, that can have a significant effect on quality of life. Advancing age produces physiological changes that may alter voice. Some of these changes are inevitable; others may be avoidable or reversible. An understanding of the causes of vocal dysfunction in the elderly is a first step for providing better care for the geriatric patients with complaints about voice dysfunction.

Aging in the larynx affects the cartilages, connective tissue, blood supply, secretions and muscles. All these changes will affect the vibratory characteristics of the vocal folds as well as the perceptual, acoustic, and physiological voice signs (Colton and Casper, 1996).

Ser.

There has been far too little researches on how aging affects many aspects of language production or processing. Also little is known about how aging affects language errors at syntactic, semantic and phonological levels; how word order variation and attachment ambiguities are affected by normal aging (Burke, 1997 and James et al., 1998).

Changes in language production in old age carry practical as well as theoretical significance, because language production is a critical component of interpersonal

communication. If aging impairs language production this may disrupt interpersonal communication and contribute to sociation isolation (Ryan et al., 1994).

IDA.

As reported by *Schunknecht (1964)* the aging process is perhaps the most common cause of hearing impairment. Presbycusis is described as accumulation of age relatedly degenerative changes within the auditory system. In its most common form, presbycusis is a gradual process initially affecting hearing sensitivity for higher frequencies of pure tone audiogram. During its early stages, most individuals are unaware of the loss, but as the deficit progresses, the ability to understand speech, specially in the presence of background noise, becomes increasingly impaired.

1.31

The prevalence of swallowing impairment increases with age and is a major health care problem in the elderly. It has been assumed that age-related changes in nerves and muscles interfere with muscle strength and coordination of swallowing. It is found that elderly demonstrated significant differences compared with young individuals as regard to all phase of swallowing (Hakan et al., 1996).

A number of age-related changes has been noted in the oral, pharyngeal, and oesophageal structures that play a role in