




Pharmaceutical Care Approach to Hearing Loss

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Dear Editor,

The ear is a very important sense organ whose main functions are hearing and balancing. It is very sensitive and plays a role in the detection, and transmission of sounds. Hepler and Strand (1) defined pharmaceutical care as: "a patient-centered, outcomes oriented pharmacy practice that requires the pharmacist to work in concert with the patient and the patient's other healthcare providers to promote health, to prevent disease, and to assess, monitor, initiate, and modify medication use to assure that drug therapy regimens are safe and effective". The goal of Pharmaceutical Care is to improve the quality of life of the patient, optimize medicines use, achieve definite outcome (1). It is imperative that we understand the role of pharmacists in the management and reduction of hearing loss through education/counselling and monitoring (2, 3).

A partial or total inability of an individual to hear sounds in the same way as other people is known as hearing loss (4). Hearing loss is a growing issue and can be caused by diseases such as chickenpox, cytomegalovirus, mumps, meningitis, sickle cell disease, syphilis, hypothyroidism, arthritis, and some cancers (5). Other causes include; exposure to cigarette second-hand smoke (commonly found in teenagers), and streptomycin-a drug used in the treatment of tuberculosis. Listening to loud music via headphones is also linked to subtle hearing loss. Reports from some agencies such as the Action on Hearing Loss (AHL) cautioned that hearing loss, even if mild puts the elderly at an increased (double) risk of developing dementia, depression, and falls. In cases of severe deafness, there is five times increase in the risk of these conditions (dementia and depression) (2, 3, 5).

People with hearing loss appear to be faced with numerous challenges, of which marginalization tops the lad-

der. This age-long marginalization has been presented in the form of negligence, lack of support, exclusion, and discrimination and is usually more intensified during childhood and early adulthood days. These individuals are disparaged and stigmatized even by their guardians and close family relations (6). From the phenomenon known as cross-modal neuroplasticity, we gained an explanation as to why the hearing impaired individuals have heightened senses (7). This is the brain's way of using sensory-deprived areas to augment existing senses. Studies have shown that individuals with hearing loss have sharper smell due to this impairment (8, 9).

The early symptoms of hearing loss are often difficult to spot by patients and even pharmacists because the onset of associated symptoms presentation is gradual. This has resulted in the inability to detect hearing loss at a very early stage till it becomes severe (10).

In Nigeria, a country of more than 160 million people, there are more than 23.7% of people having hearing impairment. Up to about 84% of these people having hearing loss remain undereducated and economically underdeveloped. A study by the charity action on hearing loss (CAHL) projects that by the year 2035, the number of individuals that will come down with some forms of hearing impairment will be more than fifteen (15) million (7). With increase in age, hearing tends to decline. However, using headphones to listen to music at high volume is another major cause of hearing loss.

As the healthcare professionals who often interact with patients more often than the prescribing physician, pharmacists can help to tackle the issue caused by hearing loss by early detection of hearing problems in patients, educating patients and the general public about the causes, symptoms, and what to do when they have hearing impaired.

ment. Also, the pharmacist can help by educating people about some misconceptions about the ear and hearing (7, 9). For instance, it is a common misconception that cell phones cause cancer of the nerves, brain, and neck from holding cellphone at one's ear. There has however, been no evidence to support that claim till date. Cellphones emit a non-ionizing radiofrequency energy which does not cause DNA damage unlike ionizing electromagnetic radiation that have been linked to DNA damage and have gained use in radiotherapy (4).

In a bid to providing care to patients, pharmacists (most especially those working in the community) can spot and manage undiagnosed hearing problems, "because they come in contact with a wide range of patients with different complaints". The Pharmacist can discuss with the patient some tips that will help reduce their risk of developing hearing loss such as the dangers of sharp objects or cotton bud usage in the ear, and exposure to loud noise (11).

Studies suggest that hearing problems can go unattended to for up to about 10 years from the period they first started consequently making treatment and better prognosis to be missed out. But pharmacists can help early detection simply by observing the behaviour of their patients (4, 10).

It can be as simple as observing if the patients keep looking at your mouth when you are counselling them in order to follow the conversation, or asking them to repeat what you tell them several times. Many people with hearing problems are lip reading without even realizing it.

If the pharmacist, while interacting with the patient observes that the person has hearing problem, they should be referred to a general practitioner who will assess the level of damage done to the ears or refer them to go see their doctor (4, 10). General practitioners may refer patients to either a specialist hospital (an Ear, Nose, and Throat hospital) or to a specialist who will assess the patient for a hearing aid-an audiologist.

As the saying goes; prevention is better than cure, the pharmacist will counsel all patients about the tendency of certain drugs to cause hearing loss. These drugs include but not limited to the following: analgesics (naproxen, ibuprofen), aminoglycosides (streptomycin), antineoplastic agents (cisplatin, carboplatin, or bleomycin), certain antidepressants (amitriptyline and clomipramine), loop diuretics, and quinine. The pharmacist should emphasize on the importance of keeping a record of how beginning a new medication changes the patient's hearing. If a drug is known to cause ototoxicity, a baseline hearing test should

be conducted before, during, and after completion of the dosage regimen. This will help in early detection of hearing impairment during the course of therapy (12).

Although there have been numerous articles on pharmaceutical care services already published, only a few of them spoke about sensory loss. This letter will serve as a background to further researches that will explore more roles of pharmacists in preventing hearing loss or taking care of their drug-related needs in order to improve the quality of life of the individual with hearing loss. Through pharmaceutical care services, hearing loss can be corrected and prevented.

Footnotes

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