

Impact of yoga on quality of life of deaf people: A narrative review

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Abstract

The main purpose of this review that how many interventions have been done on hearing impaired children and also they have to belong with yoga. One more purpose of the study was to know the work area conveyed like physical, mental and emotional capabilities of the hearing impaired adolescents and how can they improve from yoga. As well as , the study purpose is that what is the result of yoga intervention on hearing impaired adolescents. Research articles were searched by online sources as Google scholar, Pubmed and Cochrane library. In this review intervention based on Randomized Yoga intervention were included and cross over studies, case studies and cross-sectional were excluded. In the search the keywords used were deaf yoga, hearing impaired yoga, deaf and mute yoga. Number of papers obtained and included in this review were 8. Resulted of review in an understanding that level of physical health, mental health, emotional well being, social anxiety, stress in hearing impaired adolescents were improve in positive side by practice of yoga. The conclusion of the review that adolescents with hearing loss can improve their quality of life from extensive yoga based intervention and there is a need of yoga based intervention studies that can improve motor skills and quality of life of adolescents with hearing impairment.

Key words: Deaf Yoga, Hearing impaired Yoga, Deaf Communication, Deaf Mental Health, Deaf Community.

INTRODUCTION

Hearing is one of the 5 senses which humans possess and use to navigate their way through this world. It is essential for human communication and engaging properly in other social activities. Hearing impairment and loss are amongst the top disabilities which people suffer from, including children. There are various factors which contribute to hearing loss in teenagers as well as adults. The major contributors to this vicious ailment are exposure to loud noises on a regular basis, cellphones , electromagnetic field created by mobile towers and drug toxicity from ototoxic drugs. In addition to this, there are

various illnesses which can lead to deafness amongst disadvantaged or marginalized groups. These illnesses include hypothyroidism, uncontrolled diabetes mellitus, anatomical deformities of Eustachian tube, infectious diseases like rhinitis and sinusitis. According to WHO Over 1 billion young adults are at risk of permanent, avoidable hearing loss due to unsafe listening practices, an annual additional investment of less than US\$ 1.40 per persons needed to scale up ear and hearing care services globally, by 2050, nearly 2.5 billion people are projected to have some degree of hearing loss, and at least 700 million will require

hearing rehabilitation. (world health organization 2 feb2024). Communication barriers and low ability to express demands and needs, may lead to give up interests and activities and this predisposes them for mental health problems especially depression. It is assumed that there is a higher rate of depression in Children with early onset, severe to profound deafness (mild and moderate) (Rostami, Mohammad & Bahmani, Bahman & Bakhtyari, Vahid & Movallali,2014).. There are various kinds of hearing loss including sensorineural, congenital, anatomical and idiopathic.

Congenital deafness or deafness since birth can be caused when folic acid supplement isn't available to the pregnant mother. Further causes are defective pregnancy, premature birth, birth asphyxia, jaundice and other untreated infections.

Hearing loss is reversible when induced by noise pollution, especially when the treatment is sought without delay. On the other hand, when the underlying cause of hearing loss is sensory neural issues, structural deformities and aftereffects of untreated infections and reactions of drugs, the odds of cure are negligible.

Physiological hindrances in people who suffer from hearing loss degrade the quality of their lives. This creates a need for therapeutic assistance for restoring life's balance. Executive function is influenced by environmental factors such as language use at home and in the school (Hauser, Lukomski, & Hilliam, 2008).

Research also investigated language was associated with behaviour problems both directly and indirectly through effects on attention (Barker et.al 2009), embarrassment (Jose M. Mestre, Cristina Larran, Joaquín Herrero, Rocío Guil, Gabriel G. de la Torre, 2015), emotional perception ability was related mainly to warmth and consciousness, but negatively related to tension, (Jose M. Mestre, Cristina Larran, Joaquín Herrero, Rocío

Guil, Gabriel G. de la Torre, 2015), Positive self-esteem, having less severe symptoms of depression, and the use of humor or self-distraction were conducive to Cochlear Implant satisfaction (Kobosko J, Jedrzejczak WW, Pilka E, Pankowska A, Skarzynski H 2015). Development of language is also one of the most important accomplishments of the preschool years, and it has been linked to many outcomes in life (Shokrkon A, Nicoladis E 2022).

RESEARCH OBJECTIVES

This narrative review aimed to study the various aspects of everyday functioning and performance in deaf subjects. Firstly, it lays out parameters on which their functioning is judged, and then it tries to evaluate if therapeutic interventions like yoga and exercise have a positive effect on their functioning.

METHOD OF RESEARCH

This review tries to evaluate all available research on this topic, including both interventional and non-interventional studies. Case studies and cross-sectional studies weren't included in this evaluation. The search for papers in online sources like Pubmed, and Google scholar was using key words "hearing loss, deaf, hearing impairment, yoga, exercise" which resulted in obtaining 8 published manuscripts, out of which seven of the studies were yoga based interventional studies held on deaf adolescents and one of the articles examined the impact of exercise intervention on balancing skills of deaf individuals.

RESEARCH RESULTS

Emotional stability and mental health

Random sampling procedure recruited 100 deaf and dumb subjects (age range 14 to 20 years) in a research study in Haryana. The subjects of experiment group (n=50) practiced yoga for nine weeks and saw significant improvement in psychological wellbeing when compared with control group (n=50). Yoga group received theory

classes on practice of yoga, importance of diet, concentration and meditation followed by practical sessions on pranayama and five yoga asanas including Taadaasan and Savasana. The components of pranayama included Bhastrika, Kapaalbhaati, Anulom vilom, Brhaamari and Omkaar recitation. Pre and post the intervention, participants were subjects for assessments on psychological parameters at pre and post the intervention. Assessments included physical stamina test and mental health. The result summarizes a statistically significant mean score differences in all the parameters in the subjects of yoga group much better than the subjects of control group (Gahlawat & July, 2014)

Effects of A Stressor on Specific Motor Task on Individuals Displaying

Researcher studied effects of stressor on a specific motor task on individual displaying selected personality. Result showed that both self-confidence and emotional stability were related to ability to withstand stress. Stressor less affected subjects was high in self confidence or emotional stability than were the subjects low in self-confidence or emotional stability (Brown et. al. 1975)

Another study conducted on physically disadvantaged deaf adolescents (group 1) compared to socially disadvantaged community home girls (group 2) with normal hearing. Comparison one speculates symptomatically high anxiety, lower skill resistance and mental arousal among subjects of group two whereas group 1 was with high values of heart rate and diastolic blood pressure, indicating cardiac autonomic irregularities among deaf adolescents in the baseline. Yoga intervention including relaxation and awareness was found with considerable improvement in the parameters like reduction in breath rate, balance over autonomic arousal and improved autonomic variables in the subgroups in

this study (Patil, Education, & Karnataka, 2014).

Health outcomes in Deaf signing populations

Of the 35 included studies, the majority (25 out of 35) concerned mental health outcomes. The findings from this review highlighted the inequalities in health and mental health outcomes for Deaf signing populations in comparison with the general population, gaps in the range of conditions studied in relation to Deaf people, and the poor quality of available data (Rogers KD, Rowlandson A, Harkness J, Shields G, Young A, 2024) 8979 Journal of Positive School Psychology.

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Exergame versus balance training for deaf adolescents

Twenty deaf adolescents were recruited randomly into exergame group 1 (n=10) and traditional physical education group 2 (n=10). Specific balance programs were performed by subjects of group 2. Traditional physical education group practiced 3 yoga poses like yoga tree pose, standing knee pose and king of dance pose, for 15 minutes duration for two times a week for a total of eight weeks. The

primary aim of the intervention was to improve the static balance of the subjects. The intervention program which was named as Flaming balance test illustrated both the group with an improved body balance based on the mean scores extracted from pre and post intervention data. The study results highlight that balancing postures improve physical function with an improved body balance. The baseline reading of the study data reports the need for interventions that can improve body balance which is found to be considerably low in deaf children (Vernadakis, Papastergiou, Giannousi, & Panagiotis, n.d.). 8980 Journal of Positive School Psychology The asana or physical postures experimented on one another study on deaf adolescents included Uttanpadasana (double legs raising). Sarvangasana (The shoulder stand) Halasana (The Plough pose). Matsyasana (The Fish posture). Chakrasana (The Wheel pose). Ustrasana (The Kneeling Wheel pose). Suptavajrasana (The Kneeling Pose). Ardha Matsyenderasana (The half Spinal Twist). Padmasana (Lotus posture). Vajrasana (Kneeling pose). Breathing practices known as Pranayama included Anulom Vilom, Surya Bhedana. Chandra Bhedana and Cooling pranayama's like Shitali and Sitkari. The results of this study showed a considerable improvement in emotional wellbeing along with physical and motor skills in the practitioners of yoga when compared to non yoga group (Singh, 2014).

Association between Hearing Loss, Postural Control, and Mobility in Older Adults

Of 211 screened articles, 7 were included in the systematic review. A significant, positive association between HL and several objective measures of postural control was found in all seven studies, even after controlling for major covariates. Severity of hearing impairment was connected to higher prevalence of difficulties in walking and falls.

Physiological, cognitive, and behavioral processes that may influence auditory system and postural control were suggested as potential explanations for the association between HL and postural control (Agmon M, Lavie L, Doumas M 2017).

The Influence of Caregiver Language on the Association Between Child Temperament and Spoken Language in Children Who Are Deaf or Hard of Hearing.

When caregivers used lower to moderate levels of lexical diversity, child effortful control was positively related to child receptive language. However, when caregivers used higher levels of lexical diversity, child effortful control and child receptive language were not related to each other (Bowdrie K, Lind-Combs H, Blank A, Frush Holt R, 2023)

DISCUSSION

The total amount of research done on deaf worldwide adds up to 2,10,000 studies published on google scholar, 1,40,000 studies published on Pubmed and Between 1998 and 2024 , Cochrane published a total of 12,150 review articles, with an average annual growth rate of 11.68% . About 95 of such studies were about cochlear implantation in people with zero hearing. The studies were focused on vocal skills, learning abilities, along with intellectual, and cognitive abilities.

This review clearly show that appropriate and effective management can occur only when the mental health professionals are know-ledgeable and sensitive to the unique characteristics and experiences of hearing-impaired children and adolescents (Bailly D, Dechoulydelenclave MB, Lauwerier L. Encephale. 2003) for the prevention of psychological problems in deaf and hard-of-hearing individuals it is necessary to pay attention to their communication problems which are a condition for adequate society integration (Osman Sinanović, Fuad Brkić, Nevzeta

Yoga improves blood flow to the ears, help relax the muscle tissues and by the release of feel good hormones like dopamine, serotonin, endorphins (Joshi, 2019). Adults with childhood language impairment differ markedly from the general population. Problems in expressing themselves and receiving information affect their well-being the most. Childhood performance seems to have some prognostic value for language-based problems in adulthood (Arkkila et al., 2008).

Several studies have demonstrated that children who receive early manual training are actually more advanced in terms of early cognitive, social and academic achievement and these gains are maintained over the school years. Previously, 90% of deaf children went on to use sign language as adults (Rob Walker)

The current research on yogic and non-yogic methods analyses how such methods can affect a deaf person. It was found that the yogic methods that were researched upon were leading to fruitful results, whilst taking the mean scores and the statistical significant probability value outcomes into account. With regards to social anxiety, two of the studies suggested dramatic improvement after the use of yogic methods. Three studies looked into the impact of yogic methods on emotional outcomes. It was found that, these methods improve the emotional wellbeing along with the physical strength of the said person. Improvement in motor skills were linked with balance of body and neuromuscular coordination, showing a direct and indirect improvement in the wellbeing of people with hearing impairment.

Language and communicative abilities of early identified deaf and hard of hearing children are not on a par with hearing peers. Compared to normative scores from

hearing children, parents of deaf and hard of hearing children reported lower social functioning and more behavioral problems. Higher communicative abilities were related to better social functioning and less behavioral problems (Netten AP, Rieffe C, Theunissen SC, Soede W, Dirks E, Korver AM, Konings S, Oudesluys-Murphy AM, Dekker FW, Frijns JH, 2015)

Recent studies have demonstrated the interrelationship between nutrition and hearing loss highlighting the strong need to implement prevention and nutritional intervention strategies aimed at promoting hearing health from the earliest stages of life (Almazán-Catalán J, Morais-Moreno C, Puga Giménez de Azcárate AM, Partearroyo Cediél T, 2024) when compared to those with normal hearing. It can be concluded from the results that there is a need for more attention, in order to encounter the problems faced by deaf people with more safety. Yoga therapy is found to have a drastic effect on people with hearing loss, which is in fact a motivational factor for conducting yoga interventional studies on larger basis. Though there are eight studies with regards to intervention done using yoga on deaf, there is research yet to be done on other alternative methods and areas which look into: mindfulness, holistic well-being, memorization skills etc. in people with hearing loss.

SUMMARY / SUGGESTION

In summary, the lack of research in complementary and alternative medicine emphasizes the need to explore therapies like Naturopathy, Ayurveda, Unani, Siddha, and Homeopathy to understand their impact on the physical, mental, and social quality of life of individuals with hearing impairments. Although there have been eight studies on yoga as a mind-body therapy for people who are deaf, more research is needed to assess how yoga affects physical, mental, sensory, and

cognitive aspects of health in those with hearing loss. Yoga, as a versatile therapy, addresses both the causes and symptoms of hearing loss, contributing to overall health improvement. Given the high rate of hearing loss among young people, as

reported by health authorities in both developed and developing nations, there is a pressing need for focused attention and therapeutic interventions to address this issue.

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