RESEARCH ARTICLE

Social exclusion, mental health and suicidal ideation among adults with hearing loss: protective and risk factors

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Abstract

Objective: To investigate social exclusion, mental health and demographic characteristics as risk and protective factors of suicidal ideation among adults with hearing loss.

Methods: This analytical, cross-sectional study was conducted in Lahore, Pakistan, from June 2016 to January 2017, and comprised people with hearing loss. Multistage proportionate stratified sampling procedure was used. Mental Health Inventory, Social Exclusion Scale and Suicidal Ideation Attributes Scale were administered to the participants.

Results: Of the 415 subjects, 246(59.3%) were males and 169(40.8%) females. Suicidal ideation was significantly and positively related to social exclusion ($p<0.001$), psychological distress ($p<0.001$), age ($p<0.001$)) and severity of hearing loss ($p<0.05$), whereas a significant negative relationship of suicidal ideation ($p<0.05$) was observed with psychological well-being. Hierarchical regression analysis indicated social exclusion ($p<0.001$), psychological distress ($p<0.001$), age ($p<0.001$), severity of hearing loss ($p<0.001$) and gender ($p<0.001$) as significant positive predictors (risk factors), whereas psychological well-being ($p<0.05$)) was a significant negative predictor (protective factor) of suicidal ideation.

Conclusion: Social exclusion, psychological distress, severity of hearing loss and age were risk factors, whereas psychological well-being was a protective factor regarding suicidal ideation.

Keywords: Suicidal ideation, Social exclusion, Mental health, Hearing loss. (JPMA 68: 388; 2018)

Introduction

Social participation and connections are crucial for physical and mental health of individuals while social isolation has been found to be associated with poor self-esteem, depression, self-pity and feelings of alienation.

Social exclusion (SE) is the process that prevents an individual or groups to access their basic rights like education, health care and employment.[1] Thus, feelings of SE restrict the participation of victims in the process of normal socialisation which is crucial for healthy development.[2,3]

Social connections and fair attitude of the family, friends and society are major determinants of good mental and physical health. Mental health is defined as a state of social and emotional well-being in which individual is able to cope with the life stressors and to achieve his or her potential.[4] Individuals with disabilities experience more practical and social challenges than the healthy individuals. Hearing loss (HL) has been found to be related with poor cognitive and social functioning.[5] It has been reported that the psychological well-being (PW) can be independently explained by educational level, disability and social discrimination as a few studies reported the link between hearing loss (HL) and poor mental health like depression, anxiety, poor emotional control, frustration and stress.[2-4,6,7] Similarly, a positive relationship has been indicated between HL and poor physical health like hypertension, dementia and cardiovascular diseases. The people with HL have been reported a positive history of hospitalisation when compared to hearing sample due to mental as well as physical health problems.[7,8] They are victims of physical and social emotional maltreatment which adversely affect their physical and mental health.[9,10] Bullying victimisation was reported among schoolchildren with HL[11] which was further found to be positively associated with poor mental health functioning.[12] They face exclusion from the social places like education and employment. The companies do not offer them employment mainly due to their communication problems. A few studies concluded that due to unemployment, communication barriers and other social emotional problems, the individuals with HL have poor mental health.[13]

The situation becomes more critical when in response to rejection by the society the individuals with hearing loss attempt to hide their disability and use spoken language. Consequently, they misunderstand what other people

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say, and this may not only be a source of embarrassment and inadequacies but can also put the person in the state of despair and loneliness. In turn, they may suffer from more SE, stress and other psychological and physical health issues.[14]

It has been concluded that the individuals with HL cannot make proper decisions in their daily routine according to the situation which is the source of threat to their self-identity.[15] The threatened self-identity, perceived stigma and non-accepting behaviour of the society may restrict the access to intervention and rehabilitation. The interventions proved to be useful are likely to be most acceptable where they acknowledge and address the lived experiences of people with HL and potential obstacles to receiving support.[16] This kind of situations may push the individual to loneliness, hopelessness and worthlessness which further lead them towards suicidal ideation (SI) and behaviour.[17] SI is different from the act of killing one self. It means to think and to make plans to kill oneself. Risk factors for suicide and poor mental health in deaf individuals are detachment and estrangement from family and unavailability of role models.[18] Communication difficulties create indecisiveness and low concentration which in turn lead to social withdrawal.[19] Moreover, language barrier is a big factor of unemployment among adults with HL that brings isolation and feelings of solitude, alienation and burdensomeness that lead to SI.

The current study was planned to find the relationship among SE, mental distress, mental well-being and SI, and to identify age, gender, psychological distress (PD), PW and SE as predictors of SI among adult people with hearing loss.

Subjects and Methods

This analytical, cross-sectional study was conducted from June 2016 to January 2017 in Lahore, Pakistan, and comprised people with HL selected from three colleges and one deaf association. Proportionate multistage stratified sampling was used. The participants were recruited using the Taro Yamane formula.[20] At the first stage, six institutions were accessed but the heads of four gave permission. In the second stage, the sample was stratified on the basis of gender. In the third stage, the formula was applied on the stratum derived from the four institutions and a proportionate sample was drawn (Figure).

Personal information like gender, age and severity of hearing loss was recorded on a demographic form. Three standardised scales were used, namely the Urdu form[21] of original Mental Health Inventory (MIH)[22] Suicidal Ideation Attributes Scale (SIDAS)[23] and Social Exclusion Scale (SES).[24] Overall internal consistency of SIDAS, MHI and SES is α(0.89), α(0.93) and α(0.81), respectively. MIH consists of two scales, i.e. PW and PD. Items related to PW measured the emotional stability and the satisfaction, while PD assessed the depression, anxiety and poor emotional control. Total communication method was used with the participants during the administration of these tools. Internal consistency of the SIDAS, MHS and SES in the present study was α=0.77, α=0.79 and α=0.79, respectively.

The tools were used after obtaining permission from the authors concerned. Permission was obtained from the heads of institutions to collect the data. Further, informed consent was taken from the participants and they were given the right to withdraw at any time. The severity of hearing loss/hearing levels of the participants were already measured by the professionals concerned; therefore, the information was obtained from the participants on a four-point severity scale having the following options: mild, moderate, severe and profound. Afterwards the severity level was confirmed from the audiograms attached in their personal files in schools on informed consent of heads, participants and their parents.

In this study, SI was dependent, whereas SE, PD, PW, gender, age and HL were independent variables (IVs). Besides, gender was the only categorical variable.

In order to explore the relationship stated in the first objective, Spearman's correlation was run as the data was skewed whereas hierarchical regression with linear method was implied to identify the predictors of SI. Since only one independent variable (gender) was categorical and coded in SPSS as (Male=1; Female=0) therefore dummy coding was not needed.[25]

Results

Of the 539 people initially selected, 415(76.9%)

Table-1: Demographic characteristics of the participants (N=415).

Demographic Characteristics	F (%)
Gender	
Female	169(40.72)
Male	246(59.27)
Total	415
Levels of Hearing Loss	
Mild	40(9.8)
Moderate	90(21.6)
Severe	149(35.9)
Profound	136(32.7)
Total	415

Table-2: Spearman correlation between risk and protective factors of suicidal ideation.

Variables	SI	SE	PD	PW	AGE	HL
SI	-	0.36***	0.62***	-0.18**	0.22**	0.11*
SE		-	0.21**	-0.11**	0.17*	0.30***
PD		-	-	-0.14**	0.15**	0.26***
PW		-	-	-	-0.10*	-0.21**
Age					-	0.02
Severity of HL						-

SI: Suicidal ideation. SE: Social exclusion.
PD: Psychological distress. PW: Psychological well-being.
HL: Hearing loss.

Table-3: Hierarchical Regression analysis for identifying predictors of suicidal ideation.

	Model 1	Model 2	95 % CI	
	B	B	Model 1 Lower-Upper	Model 2 Lower-Upper
Constant	30.75	17.23	25.18 , 36.32	11.79 , 22.6
Social Exclusion	2.88***	2.40***	2.41 , 3.35	2.01 , 2.78
Mental Health Index	-0.12**	-0.11**	-0.19 , -0.04	-0.18 , -0.03
PD	1.57***	1.50***	1.30, 1.90	1.29 , 1.72
PW	-0.09*	-0.08*	-0.16, -0.02	-0.015, -0.05
Age		1.97**		1.56 , 2.39
Severity of HL		1.95**		1.54 , 2.36
Gender		1.11*		0.03 , 2.19
R2	0.47	0.66		
F	120.91***	112.37***		
ΔR^2	0.46	0.65		

*p< .05, **p< .001, ***p< .0001
PD: Psychological distress.
PW: Psychological well-being
HL: Hearing loss. CI: Confidence interval.

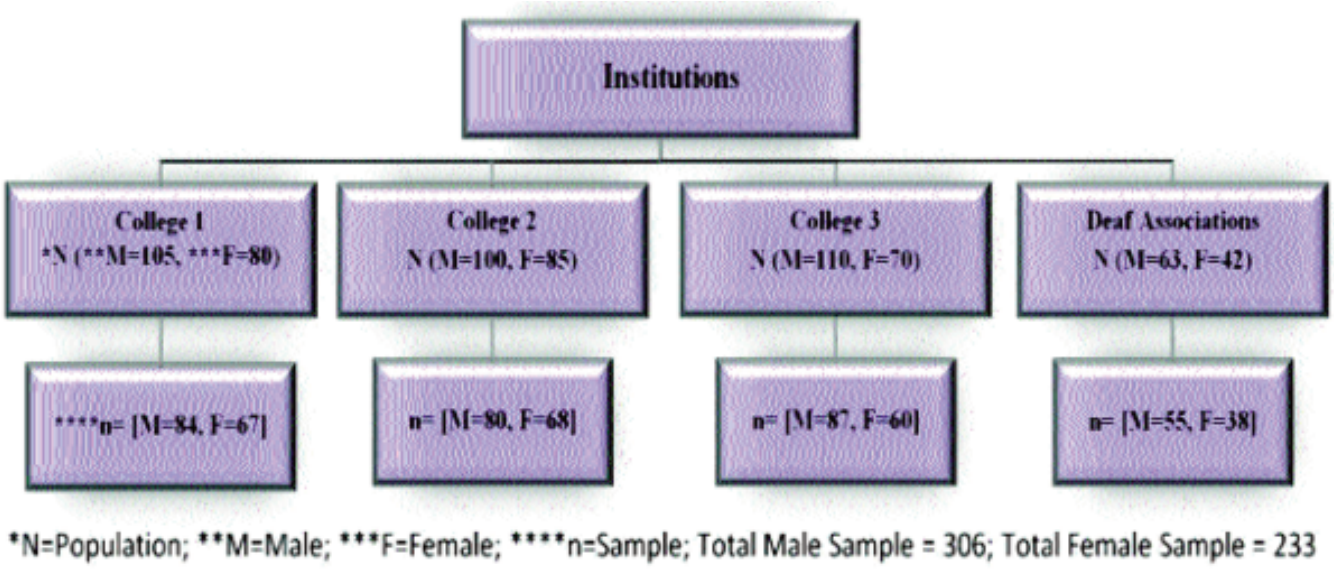

Figure: Sampling flowchart.

provided complete information. Of them, 246(59.3%) were males and 169(40.8%) females. Participants' age ranged from 18 to 35 years. The level of hearing loss was mild in 40(9.8%) participants, moderate in 90(21.6%), severe in 149(35.9%) and profound in 136(32.7%) (Table-1).

The results indicated a positive and significant relationship of suicidal ideation with SE r(0.36)***, PD r(0.62)***, age r(0.22)** and HL severity r(0.11)* while a negative relationship r(-0.18**) was observed with PW. Further, SE had a positive relation with PD r(0.21**), age r(0.17**) and HL (0.30)*** whereas it had a negative relationship with PW r(-0.11)**. Moreover, PD showed a positive relationship with age r(0.15**) and HL severity r(0.26**). On the other hand, PW had a significant and negative relationship with HL severity r(-0.20)** and age r(-0.12)** (Table-2).

A hierarchical regression analysis was run to know the effects of the independent variables, SE and mental health in terms of PD, PW and other associated factors (Table-3). At the first step, SE and PD and PW were entered. At the second step, age, HL severity and gender were entered. As a result, two models emerged. SE B(2.88, 2.40), PD B(1.57, 1.50), age B(1.97), HL severity B(1.95) and gender B(1.11) were significant positive predictors (risk factors), whereas PW B(-.09, -.08) was a significant negative predictor (protective factor) of SI. The first model showed that SE, PW and PD accounted for a significant 46% of the variance in suicidal ideation ΔR^2 0.46, F(120.91) (p<.0001). In the second model, SE, PW and PD in combination with age, HL severity and gender accounted for a significant 65% variance in suicidal ideation ΔR^2 0.65, F(112.91) (p<.0001).

Discussion

The findings of the present study revealed a positive and significant relationship of SI with SE, PD, age and HL severity, while a negative relationship was observed with PW. These results are further supported by hierarchical regression analysis which showed SE, PD, age and HL severity as positive predictors or risk factors and PW as negative predictor of SI. Literature indicates that individuals with HL face serious challenges due to communication barriers.[5-9] HL as a disability is a source of poor social and emotional functioning. Communication gap is an important reason of SE at educational institutions and the workplace.[8,9] Previous studies concluded that adults with HL experience more loneliness, anxiety, depression and exclusion.[14,19,20] The reason may be the inability to perform expected role in society in this age because individuals in early adulthood are in the phase of transition from school to the workplace. They also establish intimate relationships and create their families. But individuals with HL cannot perform their responsibilities like the hearing people. This makes them feel rejected and frustrated. These negative feelings lead towards mental distress, anxiety, depression and other serious mental health issues. SE can be a major cause of poor mental health which further leads toward self-harm behaviour and even suicide among adults with HL.[7-10,16]

A few studies also indicated that HL severity is also linked with loneliness, depression, poor social functioning and other mental health problems.[12] It has also been found to have linear relationship with self-harm behaviour. The literature showed that severity of disability is associated with self-injurious behaviour among the individuals with disability. No doubt that the cognitive and other social emotional abilities become poor as the severity of disability increases.[5] They cannot communicate properly and lack in understanding and managing their own emotions as well as others. Thus their interpersonal relationships with others may be impaired and cannot be maintained. This will lead to poor social connections that further make them feel socially excluded in different settings like home, school, community and at the workplace. Poor family and social relationships trigger the sense of rejection, loneliness and solitude which may lead to suicidal behaviour.[16,19]

People with HL were found to be the most socially isolated and had the lowest levels of social participation of any group.[3] They have been found to experience emotional neglect in their homes as early as in their childhood[10] which in turn lead to low self-esteem and feeling of inadequacies. They experience rejection in schools and the workplace. They are not hired by any organisation due to language barriers which may lead to the feelings of worthlessness. These feelings make the individual with HL depressed, which leads to suicidal behaviour.[24]

On the other hand, correlation analysis and hierarchical regression analysis showed useful findings. Firstly, a negative significant correlation of PW with PD, SE and SI has been observed. Secondly, PW emerged as a significant negative predictor of all three above-mentioned variables. These findings indicate that the participants who reported high scores on well-being showed lower SI as well as mental distress. It means that intervention and rehabilitation improve the well-

being of the persons with HL and they show less distress and more social participation which will decrease the SI.[13]

Moreover, the hierarchical regression showed SE and PD in the interaction of personal characteristics like age and HL severity play almost 20% more variance in SI. Therefore, the stakeholders must ensure the provision of services to improve the PW of the adults with hearing loss on the one hand and, on the other hand, early intervention as well as awareness programmes to manage HL must be introduced so that the increase in age and HL severity may not trigger SE and mental health problems that may lead to SI.

The current study had a few limitations as well. It was conducted on a small sample and only in one city due to limited resources. A study done in more cities including both rural and urban areas would have brought more useful results. The factors of SE and SI have not been explored in depth due to quantitative design of the study.

Conclusion

Social exclusion, psychological distress, severity of hearing loss and age emerged as risk factors, whereas psychological well-being was found to be a protective factor of suicidal ideation. Therefore, these risk factors must be focussed on by the stakeholders in terms of provision of the supporting services related to assessment, intervention and counselling at the appropriate time.

In future, the prevalence of the suicidal behaviour may be estimated among individuals with HL by selecting a large sample size. More personal and environmental factors should be identified to determine social exclusion and suicidal ideation. Qualitative study may be conducted to explore the live experience of adults with HL. These studies will lead the stakeholders to introduce plans and policies to prevent and stop social exclusion among individuals with HL which will increase the well-being and further reduce the mental health problems and suicidal ideation.

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