Correlation of Psychosocial Support Concerns and Depression in Deaf Adults at Nairobi and Kajiado Counties, Kenya

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Abstract

The Deaf are considered persons with disabilities due to societal stigma resulting in inequality and discrimination. The sequential mixed methodology utilized a cross-sectional approach, with interviews translated and administered in Kenyan Sign Language. The MMSE screened for mental status, while PHQ-9 assessed for depression and WSAS for Psychosocial Support Concerns (PSS) concerns. Researcher-designed in-depth interviews and explored qualitative themes. In addition, Focus Group Discussions, ethnographic observation checklists, and mental health providers' key informant interviews corroborated the data. Deaf adults (N=100, 83% response rate) reported inadequate counseling access (62%), while 55% reported no depression. However, 45% depicted clinically significant depression levels, with 28% of Deaf adults also indicating suicidality. Content analyses revealed family, socioeconomic welfare and stigma as the top PSS concerns. The study found a significant positive correlation between depression and

overall PSS concerns at 0.225 (p=0.024) and home management PSS concern with depression at 0.253 (p=0.011). ANOVA analyses revealed statistically significant differences between the depression categories' effects on PSS concerns, F = 3.22, p =.026. T-tests analyses indicated that means for None and Mild Depression (M=8.93, SD=8.80) were significantly lower than for Severe depression, t (13) = -3.16, p = .007, 95% CI [-15.15, -2.85]; and Moderately Severe (M=12.64, SD=7.40) were significantly lower than for Severe depression, t (13) -2.67, p = .019, 95% CI [-9.57, -1.00]. The study's implications are to design Deaf-friendly assessments. The study recommends Deaf-centric interventions and, for further research, a national census on Deaf mental health and the development of instruments normed for Kenyan Deaf populations.

Keywords: Psychological, Depression, Deaf, Adults, Nairobi, Kajiado

Overview of Psychosocial Determinants of Depression in Deaf Adults

Psychosocial support (PSS) concerns are correlated with depression disorders, the latter considered by the World Health Organization (WHO) a psychosocial disability of international concern and the leading contributor of Disability-Adjusted Life Years (DALYs) globally. Deaf adults globally do not fully access general health and mental health, including specialized Clinical Psychology services such as assessment, prevention, counseling, and other interventions. Kenyan Sign Language (KSL) is a natural, visual language used by the Deaf and the third national language in Kenya. It consists of fingerspelling and signs representing words,

concepts, and objects; gestures and idiomatic expressions and other attributes are used; its grammar and syntax do not follow that of the spoken language (Ndurumo, 2008). Owing to the societal access barriers to communication, language and information, Deaf people cannot fully

access written English, whose comprehension is accessible based on a person's ability to read and understand most spoken language.

Too often, deaf and hard-of-hearing people face literacy obstacles, which prevent personal and professional goal attainment (Braswell-Burris, 2010). Obstacles to literacy permeate health and well-being outcomes and continue despite the numerous access and support services provided to deaf and hard-of-hearing people, such as note-taking assistance, preferential seating, classroom amplification, interpreters, real-time captioning services and so on (Braswell-Burris, 2010) Consequently, English reading and writing can present as a barrier for deaf people's life goals.

The preferred areas used for this study were Kajiado and Nairobi. The sites were chosen because they offered easy accessibility to the respondents who participated in this study. The laws and regulations concerning Deaf adults and their mental health were also favorable for collecting data relevant to the study. For example, the Isinya Vocational Training Centre in Kajiado and the Karen Technical Training Institute for the Deaf situated in Karen were identified as viable data collection institutions.

Deaf Adults' Psychosocial Support Concerns and Depression Study

Deaf Adults in Kenya have been continually and systematically discriminated against when it comes to receiving government services, psychotherapy and adopting available assistive technology (AT) in a middle-income country such as Kenya. The researcher detected this form of prejudicial treatment as she volunteered and worked in several vocational and training institutions for the Deaf in Kajiado town and Nairobi city. Results showing a high correlation between discriminative psychosocial support services and cases of depression amongst the Deaf population in the country are anticipated. The Deaf population in Kenya will significantly benefit

from this and other research studies done in Kenya; this intellectual effort will propel the creation of new mental health policies and those that already exist to cater for Deaf adults and children. It will also help to inform government institutions concerned to focus on training more psychotherapists with sign language and other pragmatic skills that will cater for the demography in question.

Correlation Study

Deaf adults in Kenya face numerous psychosocial support concerns that may be risk factors for depression morbidity and mortality. These include, but are not limited to, work-related concerns, home management, social leisure, private leisure activities, and family and relationships (Mundt et al., 2002). The Deaf community in Kenya consists of a conservative figure of about 600,000 individuals out of an estimated 37.8 million people in Kenya (2009 census). They are a language minority considering their mode of communication when compared to those that use spoken language regardless of whether those languages are also minority languages. This is according to the Kenya National survey for persons with disability in 2008.

Deaf individuals have lost their auditory ability for one reason or another and hence cannot use the audio-based symbolic system that most people employ. Although there are different degrees of deafness, we shall consider anyone who has lost their hearing deaf. This community seeks to bridge the gap of inequality experienced since the country's colonial era. They seek to end the stigma that has been a pervading barrier preventing them from accessing equal rights and opportunities. These opportunities include participating and vying for electoral political positions, accessing mental health services with relative ease and integrating with other Kenyan communities. In some instances, however, Deaf children have been separated from their hearing peers by educators because they experienced loneliness, social isolation, and rejection

when they were placed in the same learning environment. This is because the two groups often experience communication difficulties with each other (Adoyo & Maina, 2019).

The goal of the Ngugi (2021) study was to determine whether psychosocial support concerns are correlated to depression in Deaf adults in Nairobi and Kajiado County, Kenya. The study had three objectives: to describe the PSS concerns, to assess the prevalence and severity of Major Depression symptoms and disorder, and to establish the relationships between categories of PSS concerns and depression among Deaf adults in Kenya. Most of the psychosocial support concerns focused on in this study include the abuse of alcohol and other drugs, sexual abuse, dysfunctional family dynamics and violence meted on individuals in the Deaf community. The study examines whether these problems are screened out in time and how they are resolved from a mental health point of view. The study also seeks to determine if those individuals in the Deaf community are provided with hope, safety, and social connectedness.

Methods

Ethical standards were adhered to by the principal investigator by collaborating in conducting research with Deaf individuals and sign language communities (Harris et al., 2009). Before data collection, elaborate recruitment and mobilization allowed potential participants to understand the aims and enhance trust in knowledge co-generation for Deaf community mental health concerns. Instruments were back translated into KSL, and two Deaf research assistants were trained and deployed, one in each county.

Participants signed the consent form and proceeded to view the printed questionnaires, which were researcher-administered in Kenyan Sign Language for about 45 minutes to one hour per participant. PHQ-9, WSAS and the semi-structured interview schedule followed the Mini-MSE. A covert ethnographic observation checklist was also filled after each session, along with

the researcher's diary for purposes of reflexivity. Participants were debriefed at the end of each survey. In addition, three Focus Group Discussions (FGD) of conveniently sampled Deaf adults, mental health providers' key informant interviews and a third group consisting of two categories of non-deaf Kenyans corroborated the data from the individual interviews. This third group was divided into two: those who regularly interacted with Deaf Kenyans and those who rarely or who did not interact with Deaf Kenyans at all.

Correlational Study Sample Characteristics

The study was in Nairobi and Kajiado Counties of Kenya, East Africa. The participants totaled 120, of which only 100 participants' data were analyzed, with 70 in Nairobi County and 30 in Kajiado County consisting of 55 males and 45 females, the majority of whom (68%) were youth aged between 18 and 35 years. All participants were Deaf or Hard of Hearing, KSL fluent, of any occupational or employment status; aged 18 to 65 years old; and with no cognitive impairment as screened by the Mini-Mental Status Exam (Folstein et al., 1975). The socio-demographic characteristics of Deaf adults are summarized in Table 1.

Table 1: Socio-Demographic Characteristics Summary

Characteristics	F	%	Characteristics	f	%
	N=100			N=100	
County			**Employment Status**		
Nairobi	70	70	Employed	37	37
Kajiado	30	30	Self-employed	25	25

Age Group			***Total working***	***62***	***62***
18-25	19	19	Unemployed	29	29
26-35	49	49	Student	8	8
36-45	26	26	Retired	0	0
46-65	4	4	N/A	1	1
66+	1	1	**Occupations per type**		
Range, Mean, (SD)			Professionals	36	36
Gender			Artisans	32	32
Male	55	55	Business	12	12
Female	45	45	Students	8	8
Male: Female Ratio	1.2:1		None	6	6
Deafness Status			N/A	6	6
Deaf	93	93	**Marital Status**		
Hard of Hearing	6	6	Married	40	40
N/A	1	1	Single	46	46
Deafness Onset Age			Separated	3	3
Birth	26	26	Divorced	2	2

Below 5 years	45	45	Other	3	3
Above 5 years	24	24	Decline to answer	6	6
I don't know	5	5	**Social Media**		
Education Level			Yes	77	77
Degree	2	2	No	17	17
Diploma	11	11	N/A	6	6
Certificate	39	39	**Access to Counseling**		
O-Level/KCSE	32	32	Yes	34	34
KCPE	11	11	No	62	62
Upper Primary	2	2	Decline to answer	4	4
NHIF membership			**Access to KSL in/out of home**		
Yes	55	55	Yes, Yes	52	52
No	39	39	Yes, No	38	38
I don't know	6	6	No, Yes	6	6
N/A	1	1	No, No	1	1
			N/A	3	3

Study Results

Objective One on Psychosocial Support Concerns

Regarding psychosocial support concerns regarding proper psychological care, 62 (62%) participants responded that they had never attended counseling, while 34 (34%) participants claimed to have attended. Four (4%) participants declined to answer. From the Work and Social Adjustment Scale, it was clear that there was a mean of 2 out of 8, revealing an average of Slight level of concerns, across a Likert scale with scores from 0 to 8, where 'Not at all' was ranked 0 out of 8, 'Slightly' was ranked 1-3, 'Definitely' was ranked 4-5, 'Markedly' was 6-7 and 'Very Severely' was 8 out of 8. On the mean level per Factor, Work ranked 3.32 out of 8 (Slightly), Home management averaged 3.30 out of 8 (Slightly), Social leisure activities averaged 2.63 out of 8 (Slightly), Private leisure activities yielded 2.04 out of 8 (Slightly) while Family and relationships were at the mean of 3.56 out of 8 (Definitely).

Table 2: Psychosocial support concerns categories Mean and SD

Items	Mean	Standard Deviation
Work	3.32	2.19
Home Management	3.30	2.51
Social leisure activities	2.63	2.45
Private leisure activities	2.04	2.08
Family and Relationships	3.56	2.66

Further, from the mixed study, qualitative synthesis conducted using thematic and content analyses confirmed the five psychosocial support concerns categories. Additionally, the findings further elaborated novel, detailed descriptions and in-depth nuances of the five WSAS categories as experienced by the participants in the current context. Content analyses revealed that socioeconomic welfare and stigma emanating from the family of origin were the topmost concerns contributing to inadequate empowerment for independent living of Deaf adults. Mainly, the Deaf community's cultural norms strengths involved frequent meetings, which revealed the buffering role of Deaf friends.

Objective Two on Depression Prevalence and Severity

The quantitative analyses comparing depression prevalence among Deaf adults in Nairobi and Kajiado counties revealed higher average depression levels at 46% in Nairobi County compared to Kajiado County at 24%, as measured by the PHQ-9. Further, an average functioning score of 9.37 (SD 1.16) indicated clinically significant levels of moderate depression for 55% (55) of participants. However, it is notable that a considerable number of 45% of participants had clinically significant depression levels at Moderate and Severe, while 28% of those depressed also indicated suicidality.

The nine-item PHQ-9 was used to assess the frequency of depression symptoms experienced over the last two weeks. The PHQ-9 scores, ranging from 0 to 27, indicate the presence and severity of depression, with scores ranging from regular to s. There was an average score of 9.37 out of 27, indicating moderate depression and a standard deviation of every level of 1.16. Scores of 10 or higher on the PHQ-9 have a sensitivity of 88% and a specificity of 88% for major depression.

Only a minority of 25 participants (25%) had no depression. However, it is notable that a total of 75 participants (75%) met the criteria for depression. Of those with depression, while 30 participants (30%) scored at mild depression, 45 (45%) were at clinically significant levels. A closer look at the severity levels of those with clinically significant depression revealed moderate (26%), moderately severe (14%) and severe (5%) depression. The depression prevalence among deaf adults in Nairobi and Kajiado counties revealed higher average depression levels at 46% in Nairobi County compared to Kajiado County at 24%, as measured by the PHQ-9.

The results of the depression item in the Depression scale are indicated in Table 3.

Table 3: Depression (PHQ-9) severity levels

Items	**F**	**%**
None	25	25
Mild	30	30
Moderate	26	26
Moderately Severe	14	14
Severe	5	5
Overall	***100***	***100***

On the PHQ item nine, which measures suicidality, 72 participants revealed no suicidality symptoms. Of the 28 participants (28%) who were suicidal, severity was ranked

'Several days' at 15 (15%) participants, 'More than half the days' at 6 (6%) participants and 'Nearly every day' at 7 (7%) participants. The 10th item was a Global Assessment of Functioning (GAF) scale ranging from zero to three revealed an average of 1.61 (53.66%), which is ranked at the normal range of functioning. The results of the suicidality item in the Depression scale are indicated in Table 4.

Table 4: Suicidality (PHQ-9 Item 9) Severity Levels

Items	**F**	**%**
Not at all	72	72
Several days	15	15
More than half the days	6	6
Nearly every day	7	7
Overall	***100***	***100***

Further descriptive analysis revealed the unequal distribution of depression across age groups, with the highest depression prevalence of 35 (35%) participants aged 26 to 35, comprising about half of all participants with depression symptoms. See Table 5.

Table 5: Depression (PHQ-9) and Age Group % Cross Tabulation

		None,	Mild,	Moderate,	Moderately,	Severe,	Total
AGE	18-25	1	9	6	1	2	19
	26-35	14	10	13	10	2	49
	36-45	8	8	6	3	1	26
	46-65	2	1	1	0	0	4
	66+	0	1	0	0	0	1
Total		25	29	26	14	5	99

A chi-square test revealed no significant association between age group and depression severity, X^2 (16, 99) = 15.3, p = .502. See Table 6.

Table 6: Chi-Square of Depression and Age Group

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	15.316[a]	16	.502
Likelihood Ratio	17.069	16	.381
Linear-by-Linear	2.839	1	.092

Association	
N of Valid Cases	99

Depression presence per deafness status revealed more Deaf participants with depression than without depression.

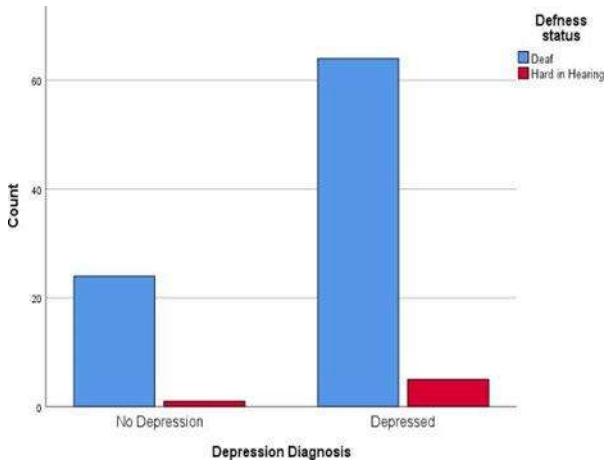

Figure 1: Depression presence per Deafness Status

In addition, those who used KSL were more depressed than those who did not.

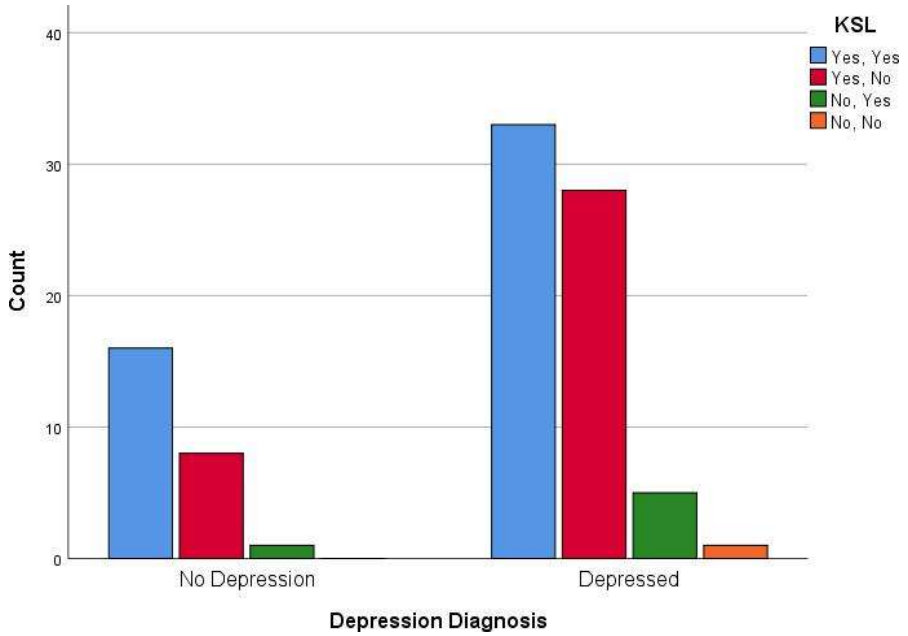

Figure 2: Depression Diagnosis about the use of KSL inside and outside the home

Objective Three Results on Psychosocial Support Concerns and Depression Correlation

Overall, there was a weak positive correlation between psychosocial support concerns and depression at 0.225 (p=0.024). While the other four PSS factors were insignificant, namely Family and Relationships, Work, Social leisure activities and Private leisure activities, the PSS concern of home management significantly correlated with depression at 0.253 (p=0.011). Out of the various correlations of the total WSAS score and each of its five psychosocial support concern factors with the PHQ depression scores, the overall depression correlation with psychosocial support concerns is illustrated in Table 6.

Table 6: Correlations of Depression (PHQ-9) and PSS concerns (WSAS)

		PHQ-9	WSAS
PHQ9	Pearson Correlation	1	.225*
	Sig. (2-tailed)		.024
	N	100	100

*. Correlation is significant at the 0.05 level (2-tailed).

There is a positive linear correlation between depression level (PHQ) and overall psychosocial support concerns (WSAS) at r (100) =.225, p=.024, which is significant. Therefore, as the various concerns, or problems, of inadequate access barriers to overall psychosocial

support concerns, increase, there is a parallel increase in the depression severity levels of Deaf adults. This is further illustrated in the regression line of the scatter plot in Table 7.

Table 7: Regression Overall PSS concerns and Depression

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.225[a]	.051	.041	1.1334

While the Regression value is 0.225, the R^2 value is 0.051 (5%), which means that only 5% of the PHQ-9 variation can be predicted by WSAS values, which explains the weak correlation. The regression line is illustrated in Figure 3.

Only 5% of the PHQ-9 variation can be predicted by WSAS values, which explains the weak correlation.

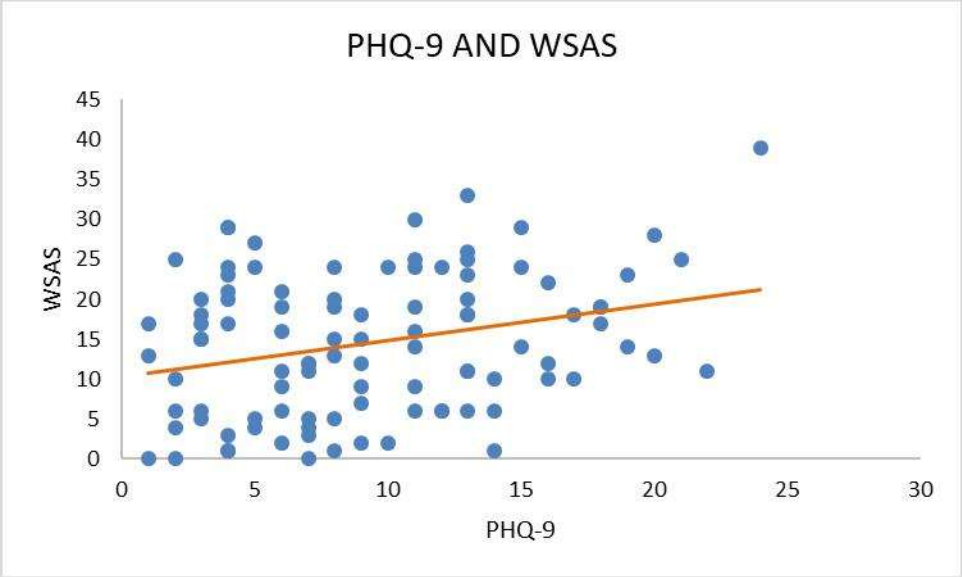

Figure 3: Regression line of overall depression and psychosocial support concerns

In order to determine the differences between the various depression levels and PSS concerns, the one-way Analysis of Variance (ANOVA) of overall psychosocial support concerns and the four categories of depression severity levels was conducted, as indicated in Table 7.

Table 7: One-way ANOVA of Overall PSS concerns and Depression

Depression (PHQ-9)	**PSS (WSAS)**	**F-value**	**P-value**
	Mean ± SD	**3.22***	**0.026**
None & Mild	12.78 ± 8.68		
Moderate	14.62 ± 8.95		
Moderately Severe	17.93 ± 5.55		
Severe	23.20 ± 11.49		

*Statistically significant ($p<0.05$)

The one-way ANOVA revealed statistically significant differences between the depression categories' effects on PSS concerns, F (3, 96) = 3.22, p = .026. A series of six post-hoc tests comparing two depression categories simultaneously was conducted, as indicated in Table 8, to identify where significant differences occurred.

Table 8: T-test of Overall PSS concerns and Depression Paired Samples Test

			Confidence Intervals		P -	Significance
		T	Lower	Upper	value	
Pair 1	None & Mild – Moderate	1.481	-1.4652	8.9052	0.152	
Pair 2	None & Mild - Moderately Severe	-.274	-5.1171	3.9171	0.786	
Pair 3	None & Mild – Severe	-3.162	-15.1481	-2.8519	0.007	**Statistically Significant (p<0.05)*

Pair 4	Moderate - Moderately Severe	-1.402	-9.3065	1.7681	0.173	
Pair 5	Moderate - Severe	-2.137	-12.7850	0.0708	0.052	
Pair 6	Moderately Severe – Severe	-2.667	-9.5673	-1.0042	0.019	*Statistically significant (p<0.05)*

The paired sample t-test indicated that the participants scored differently across the depression level categories on a test of overall PSS concerns, as indicated in Table 4.6.4. The mean scores for None and Mild (M=8.93, SD=8.80) were significantly lower than for Severe, $t(13) = 3.16$, $p = .007$, 95% CI [-15.15, -2.85]. The mean scores for Moderately Severe (M=12.64, SD=7.40) were significantly lower than for Severe, $t(13) = -2.67$, $p = .019$, 95% CI [-9.57, - 1.00]. Further, the analysis was subjected to a test of correction, using a Bonferroni test, as indicated in Table 9.

Table 9: Bonferroni Test of Correction (Dependent Variable: WSAS)

		Mean Difference Std.	Mean Difference Std.	Mean Difference Std.	Interval	Interval
(I) PHQ 9	(J) PHQ 9	(I-J)	Error	Sig.	Lower Bound	Upper Bound

No Depression	Mild Depression	3.260	2.302	1.000	-3.35	9.87
	Moderate Depression	-.055	2.381	1.000	-6.90	6.79
	Moderately Severe	-3.369	2.837	1.000	-11.52	4.79
	Severe Depression	-8.640	4.164	.407	-20.61	3.33
Mild Depression	No Depression	-3.260	2.302	1.000	-9.87	3.35
	Moderate Depression	-3.315	2.277	1.000	-9.86	3.23
	Moderately Severe Depression	-6.629	2.751	.179	-14.53	1.28
	Severe Depression	-11.900*	4.105	.047	-23.70	-.10
Moderate Depression	No Depression	.055	2.381	1.000	-6.79	6.90
	Mild Depression	3.315	2.277	1.000	-3.23	9.86
	Moderately Severe Depression	-3.313	2.817	1.000	-11.41	4.78
	Severe Depression	-8.585	4.150	.413	-20.51	3.34
Moderately Severe Depression	No Depression	3.369	2.837	1.000	-4.79	11.52
	Mild Depression	6.629	2.751	.179	-1.28	14.53
	Moderate Depression	3.313	2.751	1.000	-4.78	11.41
	Severe Depression	-5.271	2.817	1.000	-18.00	7.45
Severe Depression	No Depression	8.640	4.428	.407	-3.33	20.61
	Mild Depression	11.900*	4.164	.047	.10	23.70
	Moderate Depression	8.585	4.105	.413	-3.34	20.51
	Moderately Severe	5.271	4.150	1.000	-7.45	18.00

Results from a post hoc Bonferroni correction test revealed a statistically significant difference between Mild Depression and Severe Depression. However, no other statistically significant differences are evident in this analysis.

Discussion

Since 90% of deaf or hard-of-hearing children are born to hearing parents, probably, a deaf child's first exposure to language will not be the natural sign language but rather a fragmented model of the spoken language of hearing parents (Braswell-Burris, 2010). Because native language learning is not intact to ensure second language learning, a perpetuating cycle of language difficulties for deaf children begins (Braswell-Burris, 2010).

Boutin (2008) suggests that the social divide between deaf and hearing people results from cultural misunderstandings and social communication barriers, further alienating deaf people from achieving well-being outcomes. Paris and Granger (2008) further noted that those deaf people with the least access to social capital are the same individuals who would benefit the most from the help, sympathy, fellowship, and health benefits it offers.

Conclusion

The paper concludes that from Objective One, there are 45% of deaf adults with clinically significant depression levels. From Objective Two, numerous psychosocial support concerns are identified per category, ranking from highest to lowest: Family and Relationships in the highest level, Work and Home Management both in the second highest degree, Social Leisure Activities and Private Leisure Activities both in the lowest levels. In addition, 75% of participants were found to have depression, with an average depression severity index of mild level.

According to Objective Three, there is an overall positive correlation between psychosocial support concerns, with a significant relationship between the PSS factor of Home Management with depression. Therefore, the Deaf are most likely to encounter access barriers in psychosocial support, with their variously identified concerns exacerbating depression. In these settings, it seems emotional functioning is somewhat suppressed to sustain the more enduring relationships with Hearing people necessary for survival, although amidst stigma, discrimination and oppression. Negative affective states, including depression, often emerge from stigmatized identities of Deaf adults (Carter & Mireles, 2016).

The inadequate access to psychosocial support resources could be a plausible explanation for the Deaf-friendly and Deaf-challenged experiences. Responses and reviews about access to healthcare reported extra-stressful and scary experiences of healthcare access as the norm because there is limited readiness in providing mental health services tailor-made for the Deaf. This may result in low trust and suspicion by Deaf consumers, creating a vicious cycle of even further limited access.

As an indirect outcome of this study, the Deaf-centric tools, procedures, and ethical clinical research guidelines were developed for Kenya's Deaf mental health programs. In addition, the qualitative aims of action research are achieved, with most participants reporting awareness of the benefits of mental health access.

Recommendations

The study recommends the following improvements under each of its three objectives. On the first objective of the psychosocial support concerns, it is critical to examine the intersectionality of the various socio-demographic characteristics in the unique and diverse Deaf populations to customize prevention and intervention efforts to improve the overall health and

well-being of Deaf adults. The population public mental health approach emphasizes the social determinants of depression, which are considered the most significant factors in mental health prevention, promotion, and interventions. Given the diversity and uniqueness of the settings of Kenya's capital city Nairobi, metropolitan area, the Deaf community members need an intersectoral approach to improve their overall well-being.

Regarding the second objective, the high level of clinically significant depression morbidity prevalence at 45%, including suicidality at 28% in the present study, needs urgent and immediate Deaf-centric interventions. There is a need for Deaf-led and owned programs to adequately conceptualise the condition of depression in the Kenyan Deaf community terms, all the while centering Kenyan Sign Language and visual formats. In addition, it is crucial to ascertain which of the access barriers result in the worsening of the depression sequelae in order to increase mental health and psychosocial support for Deaf adults. Suicidality can be prevented by boosting the overall welfare of the Deaf community for enhanced autonomy and interdependence of the Deaf people. To deliver enhanced autonomy, it is recommended that the Non-Deaf Kenyans concerned to provide a conducive environment by identifying the domains for support, identifying the kinds of support needed and reaching a formal and mutually acceptable agreement.

The third objective of the relationship between psychosocial support concerns and depression has significant implications for shifting interventions to an 'upstream' approach, emphasizing mental health prevention. Workplace well-being and family and relationships in various facets, including personal and social leisure activities, must be relooked at, especially in home management. The current study provides evidence for those distressed Deaf people who may experience depression resulting from disability access barriers. Therefore, culturally

affirmative programs to curb stigma with an asset-based approach to wellness would prevent stress and distress.

Examining effective practices for developing and implementing normed clinical research instruments to assess Deaf populations is critical to the mental health and well-being of Deaf adults in Kenya. This will inform mental health interventions in the two counties of the present study and include all 47 counties. Access to health and, by extension, mental health will be a great focus for future studies.

Adaptations of English messages in oral/aural formats are needed (Ndurumo, 2008), such as the addition of visual aids and color contrasts to aid psycholinguistic processing for Deaf people. The researcher recommends that Kenyan Sign Language (KSL) classes are taught alongside Deaf culture so more hearing-able people can learn KSL for total inclusion of the deaf and hearing communities. This is because the accommodation needs of informational, linguistic and communication capacity building will impact mental health and psychosocial support access and delivery.

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