Original Article :

Psychometric analysis of the Hausa version of the Brief COPE scale among Internally Displaced Persons

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Abstract

Background and Aims:
Internally Displaced Persons suffer from stressful, and often life-threatening, events. While it is crucial to examine coping strategies used to minimize distress in this vulnerable population, common coping assessments may be resource-intensive and lack cross-cultural validation. This study aimed to translate and adapt the Brief COPE scale into Hausa (Brief COPE-Hausa) and, examine the psychometric properties of the scale.

Methods:
A six-stage model was used to translate and adapt the tool [Item-Content Validity Index = 0.9 to 1.0)]. A total of 281 Internally Displaced Persons were recruited.

Results:
The Exploratory Factor Analysis resulted in a three-factor solution (25 items) accounting for 42% of the total variance. Factor 1 (approach coping) consisted of 7 items, factor 2 (avoidant and active coping) had 7 items and factor 3 (humour and self-blame) had3 items. Internal consistency was good overall (α = 0.89), acceptable for approach coping (α = 0.77) and avoidant and active coping (α = 0.75), and unacceptable for humour and self-blame coping subscales (α =0.38), respectively.

Conclusion:
Preliminary evidence indicates the Brief COPE-Hausa is psychometrically sound.

Keywords:
Brief COPE, Internally Displaced Persons, Nigeria, Africa, War, Displacement

Introduction:

Coping is a cognitive or behavioural strategy used to manage distress in response to negative life experiences. Conscious and subconscious coping mechanisms are often employed in contexts where the internal (e.g., negative emotions) or external burden(e.g., challenging or stressful situations) associated with the experience exceed the resources needed to effectively contend with them.[1, 2] Conceptually, the (1) source of stress (e.g., life events), (2) the simultaneous cognitive appraisal of the situation as either positive or threatening, and (3) the environment (e.g., available resources and support sources)are established elements of coping. Depending on the context, coping strategies may either reduce or exacerbate stress.[3]

Traditionally, coping strategies have been dichotomously categorised as primary or secondary, functional or dysfunctional,[4] avoidance or acceptance, and engagement or disengagement approaches.[5] Coping behaviours can also be collectively grouped as either emotion-focused or problem-focused coping.[2] «Problem-focused coping» aims to eliminate or limit the effects of a stressor, whereas «emotion-focused coping» may involve positive reappraisal, self-distancing, or accepting responsibility to limit the impact of a stressor.[4] Common dysfunctional coping strategies are self-blame, avoidance, denial and substance abuse (e.g., drugs, alcohol).[6] However, associations between stressors and coping strategies examined in previous studies are often inconsistent.[7] Coping strategies may also vary considerably by context and population.

Internally Displaced Persons (IDPs) are individuals compelled to flee their place of habitation in order to escape geopolitical conflict, ethnoreligious genocide or natural disasters. They do so without crossing international borders.[8] Some suffer extreme psychological trauma as a result of these circumstances.[9] Further, active acceptance strategies were also correlated with positive psychological effects and lower levels of distress.[10]

Given the amount of suffering and distress endured relative to other populations, the strategies employed by IDPs may not succinctly align with traditionally defined coping responses. The day-to-day struggles of displaced persons have been shown to be associated with psychological and physical dysfunction.[11] As adaptive coping strategies are essential for reducing or minimizing the impact of stressful or traumatic life events, the ability to assess coping responses among IDPs is crucial. One study found that IDPs turn to friends and relatives for cash or food as a means of survival during an emergency.[12] Others may become in-

volved in activities that generate income, they may restrict food consumption to meet their children›s needs, or they may participate in community services to help other IDPs.[13] IDPs also obtain relief from evacuation camps. They utilize free medical services to meet their healthcare needs or may use herbs when these services are unavailable.[13] Prayer is the most common spiritual component of enduring displacement scenarios.[13] Migrating to a new community also influences the mental well-being of IDPs.[14] Although African communities are often diverse and multilingual, most IDPs are unable to communicate in English.[15] Despite this, there are currently no translated, adapted and cross-culturally validated tools for evaluating coping strategies among IDPs. Hausa is the most common colloquial language in Western Africa and is spoken by the majority of IDPs in Nigeria, hence the need for developing a valid assessment tool for this explicit purpose.[16]

Previous evidence indicates the factor structures of established coping inventories are stable and correlated with psychological outcomes.[2,17] Coping is often evaluated using multiple assessments (e.g., taking daily diaries, sampling events).[18] Althoughgood validity has been reported when using such strategies, their stability and consistency remain inconclusive.[18,19] Several other tools have also been developed to assess coping strategies across different populations (i.e., COPE Inventory, Brief COPE Inventory, Coping Self-Efficacy Scale, Brief Resilient Coping Scale, Proactive Coping Inventory, and Dyadic Coping Inventory).[20, 21] However, these tools have inherent limitations in their application and generalizability. The COPE Inventory is time-intensive, the Coping Self-Efficacy Scale is specifically used to measure self-confidence, the Brief Resilient Coping Scale assesses resiliency and adaptive coping, the Proactive Coping Inventory measures proactive coping approaches and the Dyadic Coping Inventory is specific to individuals in close relationships.[22-26] While the COPE Inventory is a comprehensive assessment of how people respond to various stressors, the short form (i.e., Brief COPE Inventory) is comparably less time- and resource-intensive.

The Brief COPE scale has been translated and validated into French, Portuguese, Greek and Spanish languages.[21, 27-29] It has also been translated into Bantu languages (i.e., Swahili and Kikuyu) spoken throughout Southern and Eastern Africa.[30] However, a version of the scale which has been translated, adapted and validated in Hausa, a language spoken by approximately 100 million people throughout several West African countries (i.e., Niger, Cameroon, Benin, Chad and Nigeria), is currently lacking.

Objectives:

The objectives of this study were (1) to translated and adapt the Brief COPE into Hausa (Brief COPE-Hausa) and (2) to examine its psychometric properties among IDPs in Nigeria.

Methods:

Study Design:

This longitudinal study was conducted in two phases (I & II). In phase I, the Brief COPE scale was translated into the Hausa language and was then psychometrically evaluated in phase II. Informed consent was obtained from the participants. The study had the ethical approval of the Borno State Emergency Management Agency (BOSEMA) (BO/SEMA/56/VOL. II/33), and Borno State Ministry of Health (BOMoH) (MOH/GEN/6679/1), respectively.

Phase I: Translation and Cross-cultural Adaptation:

The translation of the Brief COPE scale was guided by recommendations from Beaton and colleagues› using the six-stage model of tool translation and adaptation.[31] Two bilingual professionals (a psychologist, and a language specialist), independently translated the English version into Hausa. The translated version was assessed by a panel of experts (translators, clinical therapist, methodologist, and three mental health specialists). Two additional independent bilingual translators without prior knowledge of the initial process were then invited to translate the tool back into English. Another panel of experts (n=11) was formed to assess and rate the back-translated tool for appropriateness. Any discrepancies arising from the translation process were resolved through discussion. Thirty bilingual IDPs were recruited for pre-testing the translated scale. They were assessed for fluency in the Hausa language by the first author and were asked to review the translated Brief COPE scale to identify any difficult phrases. Participants rated the items either as clear or unclear. Participants were asked to further elaborate on items rated as unclear. Difficult phrases were then forwarded to the panellists for final review and rating. Based on the recommendation of Sousa, Rojjanasrirat[32], an inter-rater agreement of 80% was considered acceptable. Any items with lower agreement were subsequently revised. This was done to strengthen semantic, conceptual and content equivalence, and improve sentence structure, instruction and item comprehension prior to psychometric testing.[33] To make difficult phrases more comprehensible, the first author consulted experts for additional recommendations. Each item was rated, and kappa correlation coefficients were calculated for determining content validity, item clarity, and response format prior to psychometric

testing. All panellists were invited to rate the tool using a checklist. The Content Validity Index (CVI) was then calculated. A CVI ≥0.8 was considered acceptable.[34] Herdsman's Universalist model was used in determining the level of equivalence.[35] We used the Fleiss marginal multi-rater kappa coefficient agreement with 0.80-0.90 (61-81%) agreements.[36]

Phase I. Results:

Panellist rated each item of the Brief COPE-Hausa for appropriateness. Item CVI ranged from 0.9 to 1.0 indicating acceptable content validity among raters. For semantic equivalence, no translation problems were encountered, and all 28 items achieved ≥80 % inter-rater agreement. For conceptual and item equivalence, 99.35% overall agreement was achieved with a free marginal kappa of 0.99 (95 % CI: 0.96 to 1.00). Based on the observed results for content validity, semantic, conceptual and item equivalences, we concluded that the Brief COPE-Hausa was both functional and suitable for psychometric testing.

Phase II: Psychometric Evaluation:

Participants and settings:

Participants from 6 IDP camps (official n=5, unofficial n=1) were involved in the study, which was conducted from October to November 2019 in the city of Maiduguri, the capital of Borno State in North-eastern Nigeria. These camps were under the management of the State Emergency Management Agency (BOSEMA) with the support of other bilateral agencies.[37, 38] Participants were recruited after meeting the following criteria: 1) adults ≥ 18years of age, 2) IDP, and 3) able to communicate in the Hausa language. Written informed consent was obtained from all participants prior to data collection. Data was collected from victims of an ethnoreligious crisis cause by the Boko Haram insurgency which resulted in the displacement of people living in the Maiduguri metropolitan area. Participants were assisted with aid from federal, state, and other bilateral agencies operating in the region.

A convenience sampling technique was used for recruitment. A minimum sample size ≥200 was required for the factor analysis.[39] Internal consistency was also considered in calculating the required sample size.[40, 41] Assuming a true reliability of 0.7, an observed reliability of 0.6, alpha level of 0.05, and power of 0.8, an estimated sample size of 168 participants was required.[42] Considering the possibility of missing data from approximately 20% of respondents, we invited 281 IDPs to complete the questionnaires.

Instruments:

Brief COPE scale:

The coping inventory was developed from two previous models.[2, 43]. The Brief

COPE scale is a short 28-item version of the coping inventory used in healthcare settings to assess how people respond to a specific diagnosis.[44] The scale assesses maladaptive and adaptive coping strategies using 14 two-item scales,[45] as well as strategy type (i.e. emotion-focused, problem-focused, and dysfunctional coping).[4,46] Maladaptive coping is comprised of substance use, self-distraction, venting, denial, and behavioural disengagement subscales.[47, 48] Amongpeople with medical conditions, the avoidant coping domain has been correlated with poor physical health, ineffective management of anxiety,[49] and depression.[48] Adaptive coping is comprised of acceptance, active coping, planning, seeking emotional and informational support, positive reframing, religion, and humour subscales.[48]Alternatively, Carver et al categorised religion and humour as neither adaptive nor avoidant coping.[47]Adaptive (i.e., approach) coping is a more helpful and practical response to adverse life events (e.g., conflict, disasters and other stressors). Adaptive coping is often characterized by emotional stability and good physical health outcomes.[50] Using the Brief COPE scale, participants are asked to rate each item (i.e., coping strategy) on a scale of 1 to 4 (i.e., 1 = I haven›t been doing this at all, 2 = A little bit, 3 = A moderate amount, and 4 = I've been doing this a lot).

Coping strategies among IDPs may be adaptive (i.e., acceptant) or maladaptive (avoidant) depending on the resources available for managing emotional distress.[12] Avoidance strategies have been shown to be associated with depression and perceived stress.[21,48] Conversely, acceptance strategies have been correlated with general psychological well-being and overall life satisfaction.[21, 51]Some dysfunctional coping methods (e.g., denial, disengagement) were shown to interfere the ability to manage challenges, and were associated with poor health and treatment outcomes.[52, 53] Active acceptance strategies were also associated with positive psychological outcomes and lower distress.[10]

The Brief COPE scale has demonstrated good convergent validity with related assessments of physical and mental health.[27, 54] However, scale factor solutions assessed using exploratory and confirmatory factor analyses showed inconsistent results across studies. The factor structure of the scale was also specific to problem-coping.[55] Gloria and Peña assessed Chilean adults on all types of events and identified an eight-factor structure from 24 Brief COPE scale items.[51]A four-factor solution derived from 24 items used to assess participant coping following various life events has also been reported.[56] A seven-factor solution from 17 items was achieved among women with

breast cancer,[57] and a six-factors solution from 28 items was achieved for people living with HIV in China.[58]

Statistical Analysis:

Factor analysis:

Out of the 28 scale items, 25 were entered as variables in the principal component analysis. A varimax rotation method was used. Items with factor loadings <0.4 were suppressed and items with factor loadings ≥0.4 were considered acceptable. The appropriateness of the factor analysis was determined using Bartlett's Test of Sphericity and the Kaiser–Meyer–Olkin (KMO) measure. A KMO value ≥0.6 was considered acceptable and an alpha of 0.05 was set for Bartlett›s Test of Sphericity. Factor structure and point of inflection were examined using the Scree test.

Reliability:

Internal consistency was assessed using Cronbach's alpha (α), with values of 0.0-0.5, 0.5-0.6, 0.6-0.7, 0.7-0.8, 0.8-0.9 and ≥0.9 considered unacceptable, poor, questionable, acceptable, good and excellent, respectively.[59, 60] Previously reported internal consistency of the scale has ranged from unacceptable to excellent(α=0.44 to 0.90).[54,61]

Construct validity:

Correlations between the Brief COPE scale and the Hausa version of the Multidimensional Scale of Perceived Social Support (MSPSS-Hausa) were used to determine convergent validity. Spearman's rho correlations (ρ) were calculated, with values of 0.1-0.3, 0.4-0.6, and ≥0.7 indicating weak, moderate and strong correlations, respectively.[62]

Results:

Demographics:

The majority of respondents were female (n=222, 79%), and the rate of unemployment was 90.1% (n=253). Most had no formal education (238, 84.7%) and were married (n= 167, 59.4%) (Table 1).

Table 1: Sociodemographic characteristics:

No	Variable	Frequency (%)
Gender		
1	Male	59(21.0%)
2	Female	222(79.0%)
Employment		
3	Employed	13(4.6%)
4	Unemployed	253(90.1%)
5	Retired	15(5.3%)
Education		
6	No formal education	238(84.7%)
7	Primary education	27(9.6%)
8	Secondary education	11(3.9%)
9	Diploma	4(1.4%)
10	Graduate level	1(0.4%)
Marital status		
11	Married	167(59.4%)
12	Widowed	90(32.0%)
13	Divorced	12(4.3%)
14	Separated	5(1.8%)
15	Single	7(2.5%)

Exploratory Factor Analysis:

Item-total correlations ranged from weak to moderate (-0.008 to 0.599). Three

items [item 4:"I've been using alcohol or other drugs to make myself feel better " (ρ=0.29); item 11: "I've been using alcohol or other drugs to help me get through it" (ρ=-0.008); and item 13: "I've been criticising myself" (ρ=0.10)] had correlations ≤0.3 and were subsequently removed.[63] The internal consistency of items exceeded recommended values (i.e., ≥0.7).[60]

The Bartlett's Test of Sphericity was significant ($\chi 2$=2005.218, df=300, p<0.001) and the KMO measure was acceptable (KMO=0.888) signifying the appropriateness of the samples and data. Based on the principal component analysis, a five-factor solution was generated from 25 of the 28-items, and three factors (consisting of 17 items) were retained based on the Scree test results (Figure 1). The three-factor structure explained 42.164% of the total variance (Table 2). The exploratory factor reduction resulted in seven items for factor 1 [6 items from the religion (22 & 27), acceptance (20 & 24), and planning subscales (14 & 25) and 1 item from informational support (23) equally loaded].Similarly, there were seven items for factor 2 [6 items from the venting (9 & 21), denial (3 & 8) and behavioural disengagement subscales (6 & 16) and one item from active coping (2)].The remaining items comprised factor 3 [2 items from the humour subscale (18 & 28) and, one item from self-blame (26)]. Factor 1 was labelled as "approach coping"; factor 2 as "avoidant and active coping" and factor 3 as "humour and self-blame".

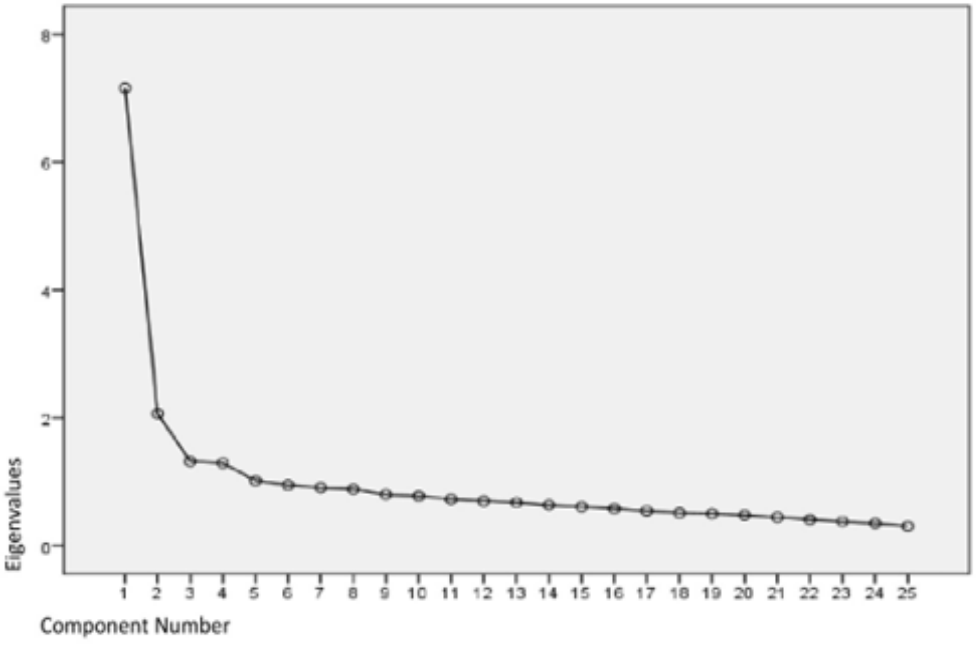


Fig. 1. The Scree Plot

Table 2: Exploratory Factor Analysis of the Brief COPE-Hausa (n=281):

No	Item	Factors			Communalities
		1	2	3	
1	I've been turning to work or other activities to take my mind off things.		0.428		0.501
2	I've been concentrating my efforts on doing something about the situation I'm in.		0.607		0.520
3	I've been saying to myself "this isn't real".		0.666		0.537
5	I've been getting emotional support from others.				0.587
6	I've been giving up trying to deal with it.		0.540		0.427
7	I've been taking action to try to make the situation better.				0.524
8	I've been refusing to believe that it has happened.		0.546		0.488
9	I've been saying things to let my unpleasant feelings escape.		0.475		0.565
10	I've been getting help and advice from other people.				0.436
12	I've been trying to see it in a different light, to make it seem more positive.				0.340
14	I've been trying to come up with a strategy about what to do	0.423			0.510
15	I've been getting comfort and understanding from someone.			0.571	0.565
16	I've been giving up the attempt to cope		0.556		0.520
17	I've been looking for something good in what is happening.		0.711		0.610
18	I've been making jokes about it.			0.491	0.621
19	I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.				0.434
20	I've been accepting the reality of the fact that it has happened.	0.700			0.552
21	I've been expressing my negative feelings		0.423		0.405
22	I've been trying to find comfort in my religion or spiritual beliefs.	0.721			0.582

23	I've been trying to get advice or help from other people about what.	0.567			0.540
24	I've been learning to live with it.	0.572			0.473
25	I've been thinking hard about what steps to take.	0.482			0.524
26	I've been blaming myself for things that happened.			0.535	0.523
27	I've been praying or meditating.	0.671			0.495
28	I've been making fun of the situation.			0.710	0.572
Eigenvalues		7.159	2.064	1.318	
Initial Eigenvalues (% of variance)		28.637	8.257	5.270	
Total variance					42.164
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization (convergence in 20 iterations)					

Reliability:

The internal consistency of the Brief COPE scale was good overall (α=0.89), acceptable for approach coping (α=0.77) and avoidant and active coping (α=0.75), and unacceptable for humour and self-blame coping subscales (α=0.38), respectively.

Validity:

The Brief COPE showed an inverse relationship between the MSPSS family subscales and approach coping (ρ=-0.25, p<0.001), avoidant and active coping (ρ=-0.36, p<0.001), and humour and self-blame coping subscales (ρ=-0.19, p=0.001). The MSPSS friend's subscale demonstrated negative correlation with the approach coping (ρ=-0.15, p=0.012), and avoidant and active coping subscales (ρ=-0.16, p=0.006). The MSPSS significant others subscale also showed negative correlation with the approach coping (ρ=-0.24, p<0.001), avoidant and active coping (ρ=-0.31, p=0.001), and humour and self-blame coping subscales (r=-0.15, p=0.012).

Discussion:

To my knowledge, this is the first study attempting to translate, adapt and validate the Brief COPE scale in the Hausa language and subsequently employ the tool to investigate coping strategies among IDPs in West Africa. The results of the EFA were also the first to support the available model fit of avoidant and approach coping,[48] and a three-factor solution. Based on our results, it was not possible to group outcomes according to dysfunction-focused, problem-focused or emotion-focused coping categories nor do our findings support

item classification in accordance with the fourteen-factor structure recommended by the original developers. Moreover, the tool developers did not provide guidance on subscale consolidation but instead leave this methodological consideration to the discretion of future researchers.

It is important to point out that, in addition to the three composite coping models (dysfunctional, problem-focused or emotion-focused coping), the Brief-COPE scale contains further classifications that can also be divided into adaptive and maladaptive coping strategies. This shows the scale dimensionality, and it is therefore not surprising that the factor structure obtained for this population does not match the original scale. However, it should be noted that the factor structure of the Brief COPE remains controversial to this day.[64] In support of this, a review found that of all the studies that examined the factor structure of the Brief COPE, only eight studies were able to identify the 14-factor solution.[64] Further, it is important to note that the factor structures found in other studies can range from 2 to 15.[64] It is therefore possible that a smaller number of factors may represent the Brief COPE.

According to Lazarus and Folkman, it is possible that internalized cultural values, beliefs and the respective norms of those affected influence the process of evaluating stressors and the perceived appropriateness of coping measures.[65] It is therefore possible that these cultural factors limit the coping options available to an individual in the face of stress (e.g., internal displacement).[65] It's likely that people from different cultures react differently to stress in terms of their coping goals, methods and outcomes, even though stress and coping are universal phenomena that affect people of all ethnicities and cultures.[65] Despite these assertions, little is known today about how culture influences stress and coping and which coping strategies are culture-specific and which are cross-cultural. Most victims of internal displacement in this study context usually receive support from national and international donor organizations, which gives them the opportunity to develop their own coping strategies.[66] It is therefore possible that their coping strategy differs from that of other people whose circumstances are not necessarily the same.Taken together, these could be responsible for the distinct factor solution in this study. However, further quantification is required. We therefore believe that coping is something that can be specific depending on the context in which those affected find themselves and the availability of coping resources.

The concept of coping is complex. In corroborating our findings with those of previous studies using EFA and confirma-

tory factor analysis (CFA), there seems to be a distinct factor structure. In terms of the number of scale items, previous factor reduction attempts involving 28 items or fewer (i.e., 17 to 24 items) have resulted in solutions ranging from 9 to 14 factors,[21, 54] and from 4 to 8 factors,[27, 51, 56, 58, 67] respectively.

In this study, a three-factor solution was retained. With the exception of the humour and self-blame coping subscale, the psychometric properties we report here were within acceptable limits. It should be noted that the internal consistency for the humour and self-blame" subscales is particularly poor, which undermines their reliability. Meanwhile, it is possible to remove an item to improve the reliability of the humour and self-blame subscales; however, it should be noted that the items capture an essential aspect of the respective construct, so their removal could potentially affect the content validity of the two subscales. We have therefore retained them.

However, it should be acknowledged that labels assigned to factors 2 and 3 were subjective due to the aggregation of related items. Acceptance, religion and active coping subscales were expected when considering African cultural heritage and belief systems involving a divine decree, (i.e., God's will, be it good or bad). Avoidant coping strategies identified among this cohort were denial, behavioural disengagement, venting and self-blame. This is consistent with previous evidence indicating these coping strategies are associated with poor mental health outcomes among individuals affected by conflict.[68] It is also common for victims of traumatic events (e.g., forced displacement) to engage in self-blame.[69] Self-criticism is a trait associated with maladaptive outcomes. Its cognitive, motivational and interpersonal features were found to interact with environmental factors to either maintain or increase individual vulnerability to psychopathology.[70,71] Notably, low-level self-criticism observed in our study was associated with a reduction in depressive symptoms.[71] Low scores observed among this cohort may have been due to the motivational support they received from the government, other bilateral agencies and supportive community environments. Item-total correlation for substance use was low for this cohort. This is possibly due to legal restrictions regarding the sale and use of alcohol in Northern Nigeria, and Borno state in particular. Moreover, the majority of study participants were Muslims and Islam prohibits consumption.[72,73]

Strengths of the Study:

This is the first validation study of the Brief COPE scale in the Hausa language. It will help assess coping strategies among

Hausa speakers. Hausa is the second-largest spoken language in Africa. This validated tool will help address the unnecessary exclusion of research participants due to language barriers in Africa.

Limitations of the Study:

The outcomes of this study are only generalizable to IDPs residing within the metropolitan area of Maiduguri. Other IDPs in relatively difficult to reach locations were not included. There may be socioeconomic differences between IDPs in remote areas in comparison to those living within the capital city, as urban IDPs receive continuous support from the government and bilateral agencies (e.g., non-governmental organisations). Another limitation was the lack of random sampling in camp selection. More than 80% of the participants had no formal education and could not complete the questionnaire without assistance. Therefore, survey anonymization was not feasible. Finally, due to time and resource constraints in employing similar coping instruments which are comparably more complex and longer in length, the concurrent validity of the scale could not be established.

Additional Evidence:

The factor structure of the Brief COPE scale was problem-specific. This is the first study to identify the factor structure of "approach (i.e., adaptive) coping", "avoidant and active coping", and "humour and self-blame coping" among IDPs.

Implications for Mental Health Nursing

A robust evaluation of coping strategies among the general population remains understudied. As IDPs experience constant distress, coping strategies may differ depending on the availability of resources and support. Nurses and other healthcare practitioners working in clinics, hospitals or with bilateral agencies in humanitarian contexts should use the Brief COPE-Hausa as a screening tool to assess coping strategies and plan health promotion activities accordingly.

Conclusion:

The psychometric properties of the Brief COPE-Hausa scale were found to be valid and reliable among IDPs in Africa. Of the five preliminary factors derived from the EFA, three were retained. Two factors supported conventional approach (i.e., adaptive) and avoidant (i.e., maladaptive) coping. However, the avoidant factor also contained active coping, which is an approach subscale. Our findings do not support the three composite coping categories (i.e., dysfunction-focused, problem-focused or emotion-focused coping) or the fourteen-factor solution proposed by the original scale developers. The outcomes of this study are specific to displaced persons in Nigeria and are therefore limited in terms of generalizability. Due to the

complex nature of the relationship among stressors, there is a need to reassess this tool among a more diverse West African population. Therefore, when selecting a coping assessment, researchers should consider the population demographic under study and the cultural context under which the tool will be employed.

Permission: You are welcome to use all scales of the Brief COPE, or to choose selected scales for use. Feel free as well to adapt the language for whatever time scale you are interested in. Available at: https://www.psy.miami.edu/faculty/ccarver/brief-cope.html

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Original Article :

Antimicrobial Susceptibility of Enterococcus Sp to Linezolide: a 7-Year Retrospective Analysis at a Tertiary Care Hospital in Saudi Arabia

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Abstract

Background and Aims:

To enhance antimicrobial and infection control strategies, it is crucial for researchers to analyze shifts in bacterial susceptibility patterns contributing to healthcare-associated infections (HAIs). This study aims to evaluate the susceptibility patterns of Enterococcus species isolated from patients at a tertiary care hospital in Saudi Arabia over a 7-year period, with a particular focus on linezolid.

Methods:

We conducted a retrospective analysis of antimicrobial susceptibility trends among Enterococcus species isolated from various clinical samples, including blood, urine, wound swabs, and other body fluids, collected between 2015 and 2021. The study utilized surveillance data from King Khalid Hospital in Al Majmaah, Saudi Arabia.

Result:

A total of 514 Enterococcus species isolates were obtained during the study period from various clinical specimens, including blood, urine, and wound swabs with 466 (90.66%) demonstrating susceptibility and 48 (9.33%) showing resistance to linezolid. There were no documented cases of mixed infections (involving more than one organism) in these samples. Each isolate was treated as a unique infection episode, and the analysis focused solely on Enterococcus species. No multiple isolates of Enterococcus species were found in the same sample or from the same patient during the study period. Each patient contributed only one isolate for analysis, ensuring no duplication in the data.

Conclusion:

Linezolid has demonstrated efficacy against Enterococcus species, exhibiting favorable clinical outcomes and a low resistance rate, thus representing a promising and cost-effective therapeutic option for treating Enterococcus-associated infections.

Keywords:

Enterococci, VRE, Linezolid, Antimicrobial Resistance, Healthcare Associated Infections