Secondary Traumatic Stress and Psychosocial Wellbeing Among Humanitarian Health Workers in Northwestern Nigeria: The Moderating Role of Interpersonal Resilience

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Abstract

This study investigated the moderating role of interpersonal resilience between secondary traumatic stress and psychosocial wellbeing among humanitarian health workers in Northwestern Nigeria. Cross-sectional survey design was adopted using a sample of 344 humanitarian health workers. They comprised 208 (60.5%) males and 136 (39.5%) females. Their ages ranged from 25-61years with a mean age of 39.29years and standard deviation of 10.83years. The sample for the study was drawn using Multistage sampling technique where census, purposive, proportionate and simple random sampling were used in stages. Secondary Traumatic Stress Scale, Interpersonal Resilience Inventory and the Copenhagen Psychosocial Wellbeing Scale were used for data collection. The four hypotheses postulated were tested using Hayes Process Macro Moderation Analysis and Multiple Regression Analysis. Results indicated that, secondary traumatic stress negatively influenced psychosocial wellbeing among humanitarian health workers. The result further showed that intrusions, avoidance and arousal independently and inversely predicted psychosocial wellbeing. The result also indicated that, interpersonal resilience positively influenced psychosocial wellbeing among humanitarian health workers. The result further showed that, positive interaction had a positive independent influence on psychosocial wellbeing while negative interactions had an inverse independent influence on psychosocial wellbeing. It was also found that interpersonal resilience significantly moderated the relationship between secondary traumatic stress and psychosocial wellbeing among humanitarian health workers. Lastly, secondary traumatic stress and interpersonal resilience jointly influenced psychosocial wellbeing among humanitarian health workers. It was recommended that non-governmental organizations providing health services to trauma survivors with the support of doctors, nurses, psychologists, health promoters should put in place policies and regulations to monitor the psychosocial wellbeing of these health workers.

Key Words: *Secondary traumatic stress, interpersonal resilience, psychosocial wellbeing, humanitarian, health workers.*

Introduction

Psychosocial wellbeing is an indispensable state of health necessary for all humanitarian health workers in Nigeria, Africa and the world at large to function optimally. A sound state of wellbeing strengthens rational thinking, innovativeness, social connectedness, concrete attention and problem-solving skills for humanitarian workers. These skills help them to effectively support vulnerable and traumatized survivors in emergency contexts (Adams et al., 2023; Lorenz, 2023). The group of people termed "humanitarian health workers" include amidst others; counselors, psychologists, nurses, midwives, doctors and health promoters who offer specialized support and are exposed to the traumatizing experiences of vulnerable and traumatized survivors on daily basis in the exercise of their duties (Dilapdilap & Marzan, 2023).

Globally, meta-analytical researches (Jones et al., 2022; Tseliou & Ashfield-Watt, 2022) have shown the importance of psychosocial wellbeing among humanitarian health workers and have also highlighted the detriments of poor wellbeing. The prevalence of psychosocial risk factors among humanitarian health workers across the globe is high; psychological distress 45%, burnout 34%, anxiety 22%, depression 32% and posttraumatic stress disorder 11% (Cameron et al., 2024). These figures cover estimates for the last decade among emergency context workers and not for the general global population. A meta-analytical study across three continents (Africa, Asia and Europe) spanning from 2020–2021 have also reported five types of mental and psychosocial ill-health including psychological distress (6.5% - 52.8%), burnout (8.5% - 32%), anxiety (3.8% - 38.5%), depression (10.4% - 39%) and posttraumatic stress disorder (10% - 25%) (Stoddard et al., 2021). These reported prevalences of psychosocial risks also have inverse associations with psychosocial wellbeing, indicating that the higher these prevalences, the lower the wellbeing.

In Nigeria, humanitarian health workers in the Northeastern part (predominantly Borno, Adamawa and Yobe States) have reported high prevalence of psychosocial stressors up to 61.97% from 2020-2022 (Nwobodo et al., 2023). An analytical study by Onigbogi and Banerjee (2019) explained that 67.72% of humanitarian health workers' psychological problems stemmed from the nature of the workload they handled in crisis zones. In Adamawa state, Yabilsu-Guyuk et al. (2022) found the prevalence of secondary traumatic stress among humanitarian health workers to be 47%, 46%, 7% among counselors, nurses and doctors respectively. These reports are high and mostly obtained in the Northeastern part of Nigeria with little or no reports of these psychosocial risks among humanitarian health workers in Northwestern states (Kaduna, Kano, Katsina, Kebbi, Jigawa, Sokoto and Zamfara). This study focuses on how secondary traumatic stress affects the psychosocial wellbeing of humanitarian health workers and how interpersonal resilience and hardiness skills moderate this relationship.

One factor that has received wide claims on its' ability to predict psychosocial wellbeing among workers in the humanitarian sector is secondary traumatic stress. Secondary traumatic stress is the emotional duress that results when a humanitarian worker hears about the first-hand trauma experiences of a crisis survivor (Peng et al., 2022). It can occur especially in professionals who work in high-stress and trauma-exposed fields (therapists, nurses, doctors). Some of the physical symptoms for a humanitarian health worker suffering from secondary traumatic stress may include fatigue, insomnia, headaches and emotional exhaustion among others (Adeyemi et al., 2020). The behavioural symptoms may include increased irritability at work and home, increased use of alcohol, compromised care for clients, avoidance of social gatherings, and

impaired decision-making ability among others (Jin et al., 2022). Thus, continuous indirect exposure to traumatizing conditions and stories can likely instigate the development of poor psychosocial wellbeing.

One variable that has buffering effects against external threats to human wellbeing is resilience. Resilience entails the process of adapting well in the face of adversity, trauma, tragedy, threats, or even significant sources of stress (American Psychological Association, 2018). One form of resilience; interpersonal resilience is associated with availability of social support and family networks. Interpersonal resilience has two dimensions; positive and negative interactions. Positive interactions cover being sociable, having time for family and friends, providing and receiving social support, while building social connectivity that can enhance their resilience to stress. Negative interactions on the other hand, represent negative and emotionally uncomfortable situations (such as a quarrel between two people); which has no function in uniting and fostering personal or social development (Shapero et al., 2019). Such interactions may likely reduce the tendency for resilience relative to positive interactions.

Interpersonal resilience is linked to coping with adversity (Grotberg, 2023; Shapero et al., 2019). It covers the ability to bounce back from negative treatments and biases. Some studies have shown that interpersonal resilience is negatively correlated with depression and anxiety (Skrove et al., 2022; Shapero et al., 2019). These means that humanitarian workers with family and friends whom they can share time with are less likely to experience distress. More relatedly, Anyan and Hjemdal (2018) indicated that interpersonal resilience partially mediated the relationship between traumatic stress, and symptoms of anxiety and depression. Also, Goldstein et al. (2023) revealed that interpersonal resilience is a protective factor for depression and anxiety symptoms. However, available data on the influence of interpersonal resilience on wellbeing excludes humanitarian health workers in Northwestern Nigeria. Stemming from the above, this study investigated secondary traumatic stress and psychosocial wellbeing among humanitarian health workers in Northwestern Nigeria and examined the moderating role of interpersonal resilience.

Secondary Traumatic Stress and Psychosocial Wellbeing

Lorenz (2023) examined the level of secondary traumatic stress, distress and psychosocial well-being among crisis line workers in Netherland and explored the moderating role of self-compassion. The result further revealed that secondary traumatic stress had a significant negative influence on psychosocial wellbeing among workers. This study shares many similarities with the present study in that they both assessed secondary traumatic stress and psychosocial wellbeing among crisis line workers using a cross-sectional design. However, they differ in the setting (Netherland vs Nigeria) and the use of moderator variables (self-compassion vs interpersonal resilience/hardiness). The reviewed study also failed to show how the dimensions of secondary traumatic stress affect the dimensions of psychosocial wellbeing. Since the study is not indigenous, the finding are less useful for interventions in Nigeria, thus, the need for the present study. However overall, the study has contributed to knowledge and the identified lapses are covered in the present study.

Adams et al. (2023) assessed secondary trauma, job burnout and psychological distress among social workers in United States of America. The study revealed that both secondary trauma

and burnout were related to the psychological distress experienced by social workers after controlling for other risk factors. This study is similar to the present study because they both assessed secondary traumatic stress among frontline workers. However, they differ in the dependent variables used (psychological distress vs psychosocial wellbeing), and the sample used in the reviewed study was relatively minute and gives doubt to statistical credibility for significant inferences. Also, the study relied on secondary data which is already obsolete for more than 20 years and lastly, the study was limited to just social workers in New York. The reviewed study also failed to show how the dimensions of secondary traumatic stress affect the dimensions of psychosocial wellbeing. Since the study is not indigenous, the findings are less useful for interventions in Nigeria, thus, the need for the present study. However overall, the study has also contributed to knowledge and the identified lapses are covered in the present study.

Dilapdilap and Marzan (2023) investigated the relationship of compassion fatigue (compassion satisfaction, burnout, and secondary traumatic stress) and psychological well-being among 105 ward nurses in Marikina City, Philippines, as moderated by spiritual orientation during the Corona Virus Disease (COVID-19) era. The results revealed a negative significant relationship between overall compassion fatigue and psychological wellbeing and also, the three factors of compassion fatigue; compassion satisfaction, burnout, and secondary traumatic stress significantly predicted psychological wellbeing. The results revealed that while higher levels of compassion fatigue may negatively impact workers' psychological wellbeing, a well-founded spiritual orientation can alleviate these negative effects. This study has the strength of illustrating the role of secondary traumatic stress on psychological wellbeing among nurses. However, the study was limited to nurses and the COVID-19 context. More so, the sample size was relatively minute and limited to frontline workers in Philippine. The reviewed study also failed to show how the dimensions of secondary traumatic stress affect the dimensions of psychosocial wellbeing.

Bock et al. (2020) examined secondary trauma events, secondary traumatic stress, and their possible consequences for psychological well-being and work ability among nurses in Germany. Nurses with secondary traumatic symptoms reported higher depression and anxiety scores compared to nurses without secondary trauma experience, and to nurses with secondary trauma experience but without secondary traumatic stress. Further, nurses with secondary traumatic stress reported significantly reduced work ability, social support and control over work, and increased emotional strain and labor time. This study just like previously reviewed studies, is related to the present study but differs in terms of the limited sample of nurses used, the setting was limited to Germany and the context was not of humanitarian origin. The reviewed study also failed to show how the dimensions of secondary traumatic stress affect the dimensions of psychosocial wellbeing. These differences constitute the gap which the present study covers in Nigeria. Since the reviewed study is not indigenous, the findings obtained therein are less useful for interventions in Nigeria, thus, the need for the present study.

Interpersonal Resilience and Psychosocial Wellbeing

Rustamov et al. (2023) investigated the mediating influence of psychological resilience on the association between social connectedness and psychological wellbeing among adults in Azerbaijan. The findings from the SEM demonstrated that psychological resilience played a significant mediating role in the relationship between social connectedness and mental wellbeing

among Azerbaijani adults. This study contributed hugely to knowledge and understanding of wellbeing. It has highlighted the role of psychological resilience on psychological wellbeing. Even though psychological resilience and interpersonal resilience are similar, they differ in many varied ways. More so, the study was carried out among the general adult population in Azerbaijan which also contrasts with the present study which will be conducted among humanitarian health workers in Nigeria. Thus, the reviewed study has only availed the impact of resilience on psychological wellbeing, its impact on social wellbeing is yet to be defined. The reviewed study also failed to show how the dimensions of interpersonal resilience affect the dimensions of psychosocial wellbeing. These limitations identified above are covered in the preset study.

Nadhira et al. (2023) explored the relationship between resilience and subjective well-being among employees who worked from home in South Jakarta, Indonesia. Correlational results found a significant positive relationship between resilience and subjective well-being among employees. This study has the strength of recency, and it assessed resilience and subjective wellbeing. However, the study could not specifically assess interpersonal resilience which is a variable of interest in the present study. Again, the reviewed study assessed subjective wellbeing but failed to assess social wellbeing which the present study deems equally important. The reviewed study also failed to show how the dimensions of interpersonal resilience affect the dimensions of psychosocial wellbeing.

Bagereka et al. (2023) examined psychosocial-spiritual well-being and its relationship to resilience and mindfulness among patients with severe and/or life-limiting medical illness in Bethesda, United States of America. The result indicated that psychosocial-spiritual wellbeing was positively correlated with resilience and mindfulness. However, this study was not specific on the type of resilience measured, also the sample for the reviewed study was patients with chronic illnesses as opposed to health workers in humanitarian settings as is used in the present study. The reviewed study also failed to show how the dimensions of interpersonal resilience affect the dimensions of psychosocial wellbeing. Therefore, this study has limited relevance to the present study and it reiterated the need for a gap filling study.

Tseliou and Ashfield-Watt (2022) investigated the influence of interpersonal resilience on mental health status among frontline workers in Ankara, Turkiye. Results indicated that poor interpersonal resilience was closely associated with poor mental health. Further, additional analysis on resilience sub-constructs indicated that poor personal skills were the most closely correlated with poorer mental health. The reviewed study shares similarities with the present study. They both assessed interpersonal resilience, however, the scales used for data collection differs. They also both examined the study variables among frontline workers. On the side of peculiarities, the reviewed study was carried out in Ankara while the present study is in Northwestern Nigeria. The reviewed study also failed to show how the dimensions of interpersonal resilience affect the dimensions of psychosocial wellbeing. There was an obvious need for more indigenous studies to avail data and facts that could inform decision making.

Secondary Traumatic Stress, Interpersonal Resilience and Psychosocial Wellbeing

Guldas and Karsli (2023) explored whether spiritual resilience moderates the connection between psychological stress and mental health among humanitarian workers in Turkiye. The correlation analysis results indicated positive correlations in the expected direction between

psychological stress and spiritual resilience. In contrast, psychological stress and spiritual resilience negatively correlated with mental health. The findings from the moderation analysis indicated that spiritual resilience has a significant moderating role in the relationship between psychological stress and mental health. Although related, the study used spiritual resilience rather than interpersonal resilience, the study also assessed psychological stress as opposed to the traumatic stress to be used in the present study. Again, the study assessed mental health as a whole while the present study sought to assess just psychosocial wellbeing. These differences are unique and called for the present study.

Savkli and Gurbuz (2023) analyzed the moderating role of resilience in the relationship between posttraumatic stress disorder symptoms and suicide ideation among firefighters in Turkiye. It was found that traumatic stress symptoms experienced at elevated levels were related to an increase in suicide ideation. Resilience was not directly effective on suicide ideation, however, the relationship between traumatic stress symptoms and suicide ideation was significant at low resilience levels but not significant at medium and high resilience levels. This study shares a lot of the features identifiable in the present study, however, they differ in the context of the participants and settings used. The reviewed study also failed to show how the dimensions of interpersonal resilience moderate the predictor-to-outcome relationship in this study. Since the study is not indigenous, the findings are less useful for interventions in Nigeria, thus, the need for the present study. However overall, the study has also contributed to knowledge and the identified lapses are covered in the present study.

Alonazi et al. (2023) examined the influence of psychological resilience between secondary traumatic stress and psychosocial health among mental health nurses in Riyadh, Saudi Arabia. The study found a strong positive correlation between psychological resilience and psychosocial health. However, there was a negative significant correlation between resilience and secondary traumatic stress. The study also found that higher resilience levels were associated with higher levels of psychosocial health and lower levels of secondary traumatic stress. Since the study is not indigenous, the findings are less useful for interventions in Nigeria, thus, the need for the present study. However overall, the study has also contributed to knowledge and the identified lapses are covered in the present study.

Chen et al. (2022) investigated the level of psychiatric nurses' mental health and whether resilience plays a mediating or moderating role between occupational stress and mental health among psychiatry nurses in China. They found that resilience played a mediating role in stress and mental health and not a moderating role. This study shares similar features with the present study but differ in the type of resilience assessed and the statistical software used for the analysis. More so, since the study is not indigenous, the findings are less useful for interventions in Nigeria, thus, the need for the present study. However overall, the study has also contributed to knowledge and the identified lapses are covered in the present study.

Hypotheses

Based on the identified gaps, the following hypotheses were postulated to guide the present study:

i. Secondary traumatic stress will significantly influence psychosocial wellbeing among humanitarian health workers in Northwest Nigeria.
ii. Interpersonal resilience will significantly influence psychosocial wellbeing among humanitarian health workers in Northwest Nigeria.
iii. Interpersonal resilience will significantly moderate the influence of secondary traumatic stress on psychosocial wellbeing among humanitarian health workers in Northwest Nigeria.
iv. Secondary traumatic stress and interpersonal resilience will jointly influence psychosocial wellbeing among humanitarian health workers in Northwest Nigeria.

Design

This study adopted cross-sectional survey design. This design was chosen because cross-sectional designs are used for population-based surveys and to assess behaviours in clinical and non-clinical samples through the use of self-report measures at a single point in time. Cross-sectional studies are carried out to investigate associations between risk factors and an outcome of interest. Therefore, the independent variable in this study is secondary traumatic stress, the moderating variable is interpersonal resilience while the dependent variable is psychosocial wellbeing.

Population

The present study covered "humanitarian health workers" in the seven (7) states in Northwestern Nigeria. Thus, the population of "humanitarian health workers" in the non-governmental organizations with humanitarian health workers working in each of these states is 3,212. The distribution is shown in the table below.

Table 1: Showing Humanitarian Health Workers in Northwest Nigeria by States.

S/n	State	Number
1.	Kebbi	443
2.	Sokoto	347
3.	Zamfara	555
4.	Katsina	482
5.	Kano	456
6.	Jigawa	438
7.	Kaduna	491
	Total	**3,212**

Source: Field Work (2024)

Sample Size Determination

In order to determine the sample for the study, the researchers adopted the formula developed by Dillman (2000) to ascertain a representative sample for the study. Using the Dillman's Formula, the sample for this study is as calculated below:

$$n= \frac{[(N)(p)(1-p)]}{[(N-1)(B/C)^2+(p)(1-p)]}$$

Where N=population (3,212)

p=0.5 (proportion expected to answer in a certain way 50%)

B=.05 (acceptable level of sampling error)

C=1.96 (confidence interval)

Thus,

$$n= \frac{[(3212)(0.5)(1-0.5)]}{[(3212-1)(.05/1.96)^2 +(0.5)(1-0.5)}$$

$$n= \frac{[(3212)(0.5)(0.5)]}{[(3211)(0.0255)^2+(0.5)(0.5)}$$

$$n= \frac{803}{[(3211)(0.00065)+(0.25)}$$

$$n= \frac{803}{2.087+0.25}$$

$$n= \frac{803}{2.337}$$

n=343.603 ≈ 344.

Sampling Technique

This study used multi-stage sampling technique where census sampling technique was used to consider all the seven (7) states in Northwestern Nigeria for the study. At the second stage, the Eighteen (18) non-governmental organizations offering medical services across the seven (7) states were purposively chosen because they were the only non-governmental organizations offering health services. They were further proportionately sampled, where the number of health workers sampled from each non-governmental organization were determined in relation to their original population. Lastly, simple random sampling was used to determine from each organization, the humanitarian health workers who finally constituted the sample for the study. Below is the distribution of how the proportionate sampling was carried out.

Table 2: Showing the Proportions humanitarian health workers sampled for the study from each NGO.

S/n	Organization	Population	Sample
1.	**Jigawa**		
	Medecins Sans Frontieres	171	18
	Care International	103	11
	IMC	164	18
2.	**Kano**		
	ALIMA	149	16
	IRC	163	18
	IMC	144	15
3.	**Kebbi**		
	MSF	150	16
	Coopi	166	18
	PUI	127	13
4.	**Zamfara**		
	InterSOS	138	15
	Goal	146	15
	Plan	110	12
	MSF	161	17
5.	**Kaduna**		
	Search	120	13
	Save	219	24
	Plan	152	16
6.	**Katsina**		
	MDM	171	18
	Mercy	107	12
	Solidarity	204	22
7.	**Sokoto**		
	TDH	117	12
	FHI	118	13
	Action	112	12
	Total	**3,212**	**344**

Source: Field Work (2024)

Thus, the summation of the above resultant figures across all the non-governmental organizations and according to the seven (7) states, gave rise to the 344 humanitarian health workers used in the study.

Participants

The participants for this study were 344 humanitarian health workers comprising of 208 (60.5%) males and 136 (39.5%) females. Their ages ranged from 25-61years with a mean age of 39.29years (SD=10.83). In terms of their religion, 202 (58.7%) were Christians, 105 (30.5%) were Muslims while 37 (10.8%) were practicing other religions. As for their ethnic groups, 77 (22.4%) were Hausa, 91 (26.5%) were Yoruba, 67 (19.5%) were Igbo while 109 (31.6%) were from other ethnic groups. Concerning their educational qualifications, 37 (10.8%) had Diploma, 238 (69.1%) had HND/B.Sc while 69 (20.1%) had M.Sc/Ph.D. Considering their marital status, 149 (43.3%) were single, 118 (34.3%) were married, 50 (14.5%) were separated/divorced, while 27 (7.9%) were widowed. As for the categories of staff, 67 (19.5%) were International Staff while 277 (80.5%) were National Staff. In terms of work duration, 159 (46.2%) worked for 10years and below, 138 (40.1%) worked for 11-20years, while 47 (13.7%) worked for over 20years. Concerning their duty stations, 37 (10.8%) were in Sokoto, 47 (13.7%) were in Kebbi, 59 (17.2%) were in Zamfara, 52 (15.1%) were in Katsina, 49 (14.2%) were in Kano, 47 (13.7%) were in Jigawa while 53 (15.3%) were in Kaduna. In terms of their designations, 35 (10.2%) were Medical Doctors, 101 (29.4%) were Psychologists/Counselors, 99 (28.8%) were Nurses/Midwives, 109 (31.6%) were Health Promoters.

Instruments

This study used the Secondary Traumatic Stress Scale, Interpersonal Resilience Inventory, and the Copenhagen Psychosocial Wellbeing Scale to collect data from the respondents.

Secondary Traumatic Stress Scale: Secondary traumatic stress was measured using the Secondary Traumatic Stress Scale developed by Bride et al. (2004). The scale has 17 items and is assessed using a 5-point Likert format of 0 (never) to 4 (very often). The scale has three dimensions; Intrusion (items 2, 3, 6, 10, 13), Avoidance (items 1, 5, 7, 9, 12, 14, 17) and Arousal (items 4, 8, 11, 15, 16). In this scale, all the items are directly scored and summed for the total score to be obtained. High scores on the items in this scale indicate high concentration of the subscale measured by those items. The authors reported a Cronbach's alpha of .90. The present study obtained an overall Cronbach's alpha coefficient of .87. The subscales; Intrusions, Avoidance and Arousal had .78, .73 and .86 respectively. Sample of items on the scale include: "It seemed as if I was reliving the trauma(s) experienced by my client(s)", "Thought about my work with clients when I didn't intend to".

Interpersonal Resilience Inventory: Interpersonal resilience was measured using the Interpersonal Resilience Inventory developed by Rivers and Sanford (2020). The scale has 16 items and is assessed using a 5-point Likert format of 1 (strongly disagree) to 5 (strongly agree). The scale has two dimensions; Positive interaction (items 1, 3, 5, 7, 9, 11, 13, 15) and Negative interaction (items 2, 4, 6, 8, 10, 12, 14, 16 which are reverse-scored). High scores on the items in this scale indicate high concentration of the subscale measured by those items. According to the authors, the scale has a reliability coefficient of .87 and .90 for the positive and negative interactions subscales respectively. The present study obtained an alpha coefficient of .82 for the overall scale and .80, .71 for the positive and negative interactions subscales respectively. A sample

of items on the scale include: "I and a significant person in my life spent time together doing things as a pair", "In my relationship with a significant person in my life, one of us was attentive to the other's needs".

Copenhagen Psychosocial Wellbeing Scale: Psychosocial wellbeing was measured using the Copenhagen Psychosocial Wellbeing Scale developed by Pejtersen et al. (2010). The scale has 30 items and is assessed using a 5-point Likert format of 0 (Never) to 4 (Always). The scale has 7 dimensions; Quality of Sleep (items 1-4), Burnout Tendency (items 5-8), Healthy Relationship (items 9-12), Depressive Symptoms (items 13-16), Social Interaction (items 17-20), Cognitive Stress (items 21-24), and Self-Efficacy (items 25-30). In this scale, items 1-3, 5-8, 13-16, 21-24 are reverse-scored while items 4, 9-12, 17-20, 25-30 are directly scored. High scores on the items in this scale indicate high concentration of the subscale measured by those items. The author reported an overall alpha coefficient of .89. The present study obtained a reliability coefficient of .89 for the overall scale while the subscales had; Quality Sleep (α=.75), Burnout Tendency (α=.80), Health Relationship (α=.79), Depressive Symptoms (α=.78), Social Interaction (α=.83), Cognitive Stress (α=.83), Self-Efficacy (α=.85). Sample of items on the scale include; "How often have you had difficulty in taking decisions?", "Do you feel okay been in the midst of others?"

Procedure

This study was carried out among humanitarian health workers in Jigawa, Kano, Kebbi, Kaduna, Katsina, Sokoto and Zamfara states in Northwestern Nigeria. The researchers first sought the approval for data collection among humanitarian health workers and also to request the total number of Non-Governmental Organizations and humanitarian workers across all the states in Northwestern Nigeria. The approval was obtained alongside the statistics of Non-Governmental Organizations and humanitarian workers in Northwestern Nigeria. The researchers proceeded to The researchers used the questionnaire for this study to create an online data collection sheet using google form which was administered to the targeted respondents (humanitarian health workers). In the online questionnaire, the researchers assured the respondents of confidentiality, informed consent, safety, anonymity and non-deceptions. The researchers administered these online questionnaires with the support of a Human Resource Assistant from each organization considered in the study. After the online administration, the researchers followed-up every two days for one week, to ensure that the Human Resource Assistant constantly reminds the respondents to fill and submit their responses. At the end of the process, all the 344 responses representing 100% return rate were submitted online, into the researchers' google account. The researchers then downloaded them into Microsoft Excel, further refined and encoded the responses into Statistical Packages for Social Sciences (SPSS) and conducted the required analyses.

Data Analysis

The data collected in this study were analyzed using a combination of descriptive statistics and inferential statistics. The researchers described the attributes of the respondents using mean, standard deviation, frequencies and percentages. On the other hand, multiple linear regression, Hayes process moderation analysis and standard multiple regression were used for hypotheses testing.

Results

The hypotheses raised in this study were tested using regression analysis and Process Moderation analysis. The results are presented in the tables beneath:

Table 3: Summary of Multiple Regression showing the Influence of Secondary Traumatic Stress on Psychosocial Wellbeing among Humanitarian Health Workers in Northwestern Nigeria

Outcome	Predictor	R	R^2	F	df	ß	t	Sig.
PSW	Constant	.532	.283	44.783	3,340		16.762	.000
	Intrusion					-.276	-5.833	.000
	Avoidance					-.712	-10.804	.000
	Arousal					-.475	-7.107	.000
Quality Sleep	Constant	.901	.811	487.376	3,340		-13.647	.000
	Intrusion					-.480	-19.743	.000
	Avoidance					-.352	-10.406	.000
	Arousal					-.428	-12.471	.000
Burnout	Constant	.626	.391	72.908	3,340		17.746	.000
	Intrusion					.065	1.498	.135
	Avoidance					.809	13.315	.000
	Arousal					.312	5.067	.000
Relationship	Constant	.903	.815	498.635	3,340		49.892	.000
	Intrusion					-.807	-33.525	.000
	Avoidance					-.581	-17.343	.000
	Arousal					-.907	-26.709	.000
Depression	Constant	.682	.466	98.785	3,340		4.177	.000
	Intrusion					.320	7.818	.000
	Avoidance					.712	12.504	.000
	Arousal					.968	16.777	.000
Sociality	Constant	.664	.441	89.441	3,340		7.908	.000
	Intrusion					-.208	-4.973	.000
	Avoidance					-.838	-14.399	.000
	Arousal					-.577	-9.786	.000
Cog. Stress	Constant	.979	.958	2575.151	3,340		2.297	.022
	Intrusion					.417	6.256	.000

	Avoidance					.299	8.282	.000
	Arousal					.270	8.387	.000
Self-Efficacy	Constant	.865	.748	336.795	3,340		7.096	.000
	Intrusion					-.563	-20.037	.000
	Avoidance					-.674	-17.256	.000
	Arousal					-.719	-18.159	.000

The result displayed in table 3 shows that secondary traumatic stress significantly influenced psychosocial wellbeing among humanitarian health workers; [R^2=.283, F(3,340)=44.783, p<.001]. This means that secondary traumatic stress explained 28.3% of the variance in psychosocial wellbeing. The result further showed that intrusions (β=-.276, t=-5.833, p<.001) avoidance (β=-.712, t=-10.804, p<.001) and arousal (β=-.475, t=-7.107, p<.001) independently and inversely predicted psychosocial wellbeing. This implies that humanitarian health workers may be at risk of poor psychosocial wellbeing if they experience intrusive thoughts, avoidance behaviours and hyper-arousal symptoms. Thus, hypothesis one was supported.

As for the dimensions of psychosocial wellbeing, the result shows that secondary traumatic stress significantly influenced quality sleep among humanitarian health workers; [R^2=.811, F(3,340)=487.376, p<.001]. This means that secondary traumatic stress explained 81.1% of the variance in quality sleep. The result further showed that intrusions (β=-.480, t=-19.743, p<.001) avoidance (β=-.352, t=-10.406, p<.001) and arousal (β=-.428, t=-12.471, p<.001) independently and inversely predicted quality sleep. This implies that humanitarian health workers may be at risk of poor sleep quality if they experience intrusive thoughts, avoidance behaviours and hyper-arousal symptoms.

The result also shows that secondary traumatic stress significantly influenced burnout tendency among humanitarian health workers; [R^2=.391, F(3,340)=72.908, p<.001]. This means that secondary traumatic stress explained 39.1% of the variance in burnout tendency. The result further showed that only avoidance (β=.809, t=13.315, p<.001) and arousal (β=.312, t=5.067, p<.001) independently and positively predicted burnout tendency while intrusions (β=.065, t=1.498, p>.05) did not. This implies that humanitarian health workers who experience avoidance and arousal symptoms may be predisposed to job burnout, while those experiencing intrusions do not have a tendency for burnout.

The result shows that secondary traumatic stress significantly influenced healthy relationships among humanitarian health workers; [R^2=.815, F(3,340)=498.635, p<.001]. This means that secondary traumatic stress explained 81.5% of the variance in healthy relationships. The result further showed that intrusions (β=-.807, t=-33.525, p<.001) avoidance (β=-.581, t=-17.343, p<.001) and arousal (β=-.907, t=-26.709, p<.001) independently and inversely predicted healthy relationships. This implies that humanitarian health workers may be at risk of poor interpersonal relationships if they experience intrusive thoughts, avoidance behaviours and hyper-arousal symptoms.

The result also shows that secondary traumatic stress significantly influenced depressive symptoms among humanitarian health workers; [R^2=.466, F(3,340)=98.785, p<.001]. This means that secondary traumatic stress explained 46.6% of the variance in depressive symptoms. The result further showed that intrusions (β=.320, t=7.818, p<.001) avoidance (β=.712, t=12.504, p<.001) and arousal (β=.968, t=16.777, p<.001) independently and positively predicted depressive symptoms. This implies that humanitarian health workers who experience intrusive thoughts, avoidance behaviours and hyper-arousal symptoms may be at risk of depression.

The result also shows that secondary traumatic stress significantly influenced social interactions among humanitarian health workers; [R^2=.441, F(3,340)=89.441, p<.001]. This means that secondary traumatic stress explained 44.1% of the variance in social interactions. The result further showed that intrusions (β=-.208, t=-4.973, p<.001) avoidance (β=-.838, t=-14.399, p<.001) and arousal (β=-.577, t=-9.786, p<.001) independently and inversely predicted social interactions. This implies that humanitarian health workers who experience intrusive thoughts, avoidance behaviours and hyper-arousal symptoms may as well have a low tendency to engage in social interactions with colleagues and other people.

The result also shows that secondary traumatic stress significantly influenced cognitive stress among humanitarian health workers; [R^2=.958, F(3,340)=2575.151, p<.001]. This means that secondary traumatic stress explained 95.8% of the variance in cognitive stress. The result further showed that intrusions (β=.417, t=6.256, p<.001) avoidance (β=.299, t=8.282, p<.001) and arousal (β=.270, t=8.387, p<.001) independently and positively predicted cognitive stress. This implies that humanitarian health workers who experience more intrusive thoughts, avoidance behaviours and hyper-arousal symptoms may be at risk of high cognitive stress.

The result also shows that secondary traumatic stress significantly influenced self-efficacy among humanitarian health workers; [R^2=.748, F(3,340)=336.795, p<.001]. This means that secondary traumatic stress explained 74.8% of the variance in self-efficacy. The result further showed that intrusions (β=-.563, t=-20.037, p<.001) avoidance (β=-.674, t=-17.256, p<.001) and arousal (β=-.719, t=-18.159, p<.001) independently and inversely predicted self-efficacy. This implies that humanitarian health workers who experience intrusive thoughts, avoidance behaviours and hyper-arousal symptoms may be poor in self-efficacy.

Over all, the result indicated that secondary traumatic stress influenced the psychosocial wellbeing of humanitarian health workers in the following magnitudes; cognitive stress (95.8%), health relationship (81.5%), quality of sleep (81.1%), self-efficacy (74.8%), depressive symptoms (46.6%), social interaction (44.1%) and burnout tendency (39.1%).

Table 4: Summary of Multiple Regression showing the Influence of Interpersonal Resilience on Psychosocial Wellbeing among Humanitarian Health Workers in Northwestern Nigeria

Outcome	Predictor	R	R^2	F	df	ß	t	Sig.
PSW	Constant	.511	.261	60.159	2,341		18.020	.000
	Positive Interactions					.512	10.675	.000
	Negative Interactions					-.240	-5.009	.000
Quality Sleep	Constant	.462	.214	46.325	2,341		2.276	.000
	Positive Interactions					.286	5.783	.000
	Negative Interactions					-.438	-8.858	.000
Burnout	Constant	.681	.464	147.471	2,341		7.405	.000
	Positive Interactions					-.579	-14.163	.000
	Negative Interactions					.524	12.829	.000
Relationship	Constant	.858	.737	477.619	2,341		25.399	.000
	Positive Interactions					.875	30.579	.000
	Negative Interactions					-.335	-11.701	.000
Depression	Constant	.283	.080	14.808	2,341		8.822	.000
	Positive Interactions					-.241	-4.505	.000
	Negative Interactions					.101	1.883	.061
Sociality	Constant	.682	.465	147.922	2,341		5.006	.000
	Positive Interactions					.611	14.961	.000
	Negative Interactions					-.483	-11.828	.000
Cog. Stress	Constant	.495	.245	55.458	2,341		-4.547	.000
	Positive Interactions					-.387	-7.991	.000
	Negative Interactions					.230	4.742	.000
Self-Efficacy	Constant	.539	.291	69.936	2,341		20.617	.000
	Positive Interactions					.291	6.201	.000
	Negative Interactions					-.389	-8.289	.000

The result displayed in table 4 shows that interpersonal resilience significantly influenced psychosocial wellbeing among humanitarian health workers; [R^2=.261, F(2,341)=60.159, p<.001]. This means that interpersonal resilience explained 26.1% of the variance in psychosocial wellbeing. The result further showed that positive interaction (β=.512, t=10.675, p<.001) has a positive independent influence on psychosocial wellbeing while negative interactions (β=-.240, t=-5.009, p<.001) has an inverse independently influence on psychosocial wellbeing. This implies

that humanitarian health workers who have positive interactions with people, may have high psychosocial wellbeing while those who exhibit negative interactions may experience poor psychosocial wellbeing. Thus, hypothesis two was also supported.

As for the dimensions of psychosocial wellbeing, the result shows that interpersonal resilience significantly influenced quality sleep among humanitarian health workers; [R^2=.214, F(2,341)=46.325, p<.001]. This means that interpersonal resilience explained 21.4% of the variance in quality sleep. The result further showed that positive interactions (β=.286, t=5.783, p<.001) had a significant positive influence on sleep quality while negative interactions (β=-.438, t=-8.858, p<.001) had a significant inverse independent influence on quality sleep. This implies that humanitarian health workers who have positive interactions with people, may have high chances for quality sleep while those who exhibit negative interactions may experience poor sleep quality.

The result also shows that interpersonal resilience significantly influenced burnout tendency among humanitarian health workers; [R^2=.464, F(2,341)=147.471, p<.001]. This means that interpersonal resilience explained 46.4% of the variance in burnout tendency. The result further showed that positive interaction (β=-.579, t=-14.163, p<.001) had a significant negative influence on burnout tendency while negative interactions (β=.524, t=12.829, p<.001) had a significant positive influence on burnout tendency. This implies that humanitarian health workers who have positive interactions with people, may have lower predispositions for burnout while those who exhibit negative interactions may have higher inclinations to burnout.

The result also shows that interpersonal resilience significantly influenced healthy relationships among humanitarian health workers; [R^2=.737, F(2,341)=477.619, p<.001]. This means that interpersonal resilience explained 73.7% of the variance in healthy relationships. The result further showed that positive interaction (β=.875, t=30.579, p<.001) positively predicted healthy relationships while negative interaction (β=-.335, t=-11.701, p<.001) negatively predicted healthy relationships. This implies that humanitarian health workers who have positive interactions with people, may have high chances for healthier relationships while those who exhibit negative interactions may experience poor relationships.

The result also shows that interpersonal resilience significantly influenced depressive symptoms among humanitarian health workers; [R^2=.080, F(2,341)=14.808, p<.001]. This means that interpersonal resilience explained 8% of the variance in depressive symptoms. The result further showed that positive interactions (β=-.241, t=-4.505, p<.001) inversely predicted depressive symptoms while negative interactions (β=.101, t=1.883, p>.001) did not predict depressive symptoms completely. This implies that humanitarian health workers who have positive interactions with people, may have lower chances of becoming depressed, while on the other hand, negative interactions seemed not to be associated with depressive symptoms. This is quite absurd, but likely because even the overall prediction of interpersonal resilience on depressive symptoms is quite low. This could be that the two variables are not quite related.

The result also shows that interpersonal resilience significantly influenced social interactions among humanitarian health workers; [R^2=.465, F(2,341)=147.922, p<.001]. This

means that interpersonal resilience explained just 46.5% of the variance in social interactions. The result further showed that positive interactions (β=.611, t=14.961, p<.001) positively predicted social interaction while negative interactions (β=-.483, t=-11.828, p<.001) negatively predicted social interactions. This implies that humanitarian health workers who have positive interactions with people, may have high chances for social interactions while those who exhibit negative interactions may have lower chances for social interactions.

The result also shows that interpersonal resilience significantly influenced cognitive stress among humanitarian health workers; [R^2=.245, F(2,341)=55.458, p<.001]. This means that interpersonal resilience explained 24.5% of the variance in cognitive stress. The result further showed that positive interactions (β=-.387, t=-7.991, p<.001) made a negative contribution to cognitive stress while negative interaction (β=.230, t=4.742, p<.001) made a positive contribution to cognitive stress. This implies that humanitarian health workers who have more positive interactions with people, may have lower chances for cognitive stress while those who exhibit more negative interactions may have higher chances for cognitive stress.

The result also shows that interpersonal resilience significantly influenced self-efficacy among humanitarian health workers; [R^2=.291, F(2,341)=69.936, p<.001]. This means that interpersonal resilience explained 29.1% of the variance in self-efficacy. The result further showed that positive interactions (β=.291, t=6.201, p<.001) had a significant positive influence on self-efficacy while negative interaction (β=-.389, t=-8.289, p<.001) had a significant negative influence on self-efficacy. This implies that humanitarian health workers who have positive interactions with people, will have high self-efficacy while those who exhibit negative interactions may experience poor self-efficacy.

Over all, the result indicated that interpersonal resilience influenced the psychosocial wellbeing of humanitarian health workers in the following magnitudes; health relationship (73.7%), social interaction (46.5%), burnout tendency (46.4%), self-efficacy (29.1%), cognitive stress (24.5%), quality of sleep (21.4%), and depressive symptoms (8%).

Table 5: Summary of Hayes Process Macro Analysis showing the Moderating Role of Interpersonal Resilience in Secondary Traumatic Stress and Psychosocial Wellbeing among Humanitarian Health Workers in Northwestern Nigeria

Variables	R	R^2	F	df	ß	t	sig.	LLCI	ULCI
Constant	.813	.660	220.388	3,340		318.924	.000	92.666	93.816
Secondary Traumatic Stress					-.530	-11.826	.000	-.618	-.442
Interpersonal Resilience					.573	5.636	.000	.373	.773
Int_1(X*W)					-.364	-18.396	.000	-.403	-.325

The result displayed in table 5 shows that interpersonal resilience significantly moderated the relationship between secondary traumatic stress and psychosocial wellbeing among humanitarian health workers; [R^2=.660, F(3,340)=220.388, Int_1(X*W) (β=-.364, t=-18.396, LLCI=-.403, ULCI=-.325]. The result further indicated that secondary traumatic stress (ß=-.530,

t=-11.826, LLCI=-.618, ULCI=-.442) had a significant negative influence on psychosocial wellbeing while interpersonal resilience (ß=.573, t=5.636, LLCI=.373, ULCI=.773) positively influenced psychosocial wellbeing. This result implies that humanitarian health workers who are facing secondary traumatic stress but also have interpersonal resilience skills, can still experience some level of psychosocial wellbeing. This is because resilience skills can neutralize the negative impact of traumatic stress on wellbeing. Thus, hypothesis four was also supported.

Table 6: Summary of Standard Multiple Regression showing the Joint Influence of Secondary Traumatic Stress and Interpersonal Resilience on Psychosocial Wellbeing among Humanitarian Health Workers in Northwestern Nigeria

Outcome	Predictor	R	R^2	F	df	ß	t	Sig.
PSW	Constant	.569	.324	54.341	2,341		16.045	.000
	Secondary Traumatic Stress					-.615	-10.534	.000
	Interpersonal Resilience					.565	10.567	.000
Quality Sleep	Constant	.971	.943	1872.343	2,341		27.942	.000
	Secondary Traumatic Stress					-.945	-55.737	.000
	Interpersonal Resilience					.400	25.699	.000
Burnout	Constant	.677	.458	95.705	2,341		6.778	.000
	Secondary Traumatic Stress					.874	16.729	.000
	Interpersonal Resilience					-.545	-11.377	.000
Relationship	Constant	.915	.840	596.111	2,341		9.444	.000
	Secondary Traumatic Stress					-.792	-27.929	.000
	Interpersonal Resilience					.890	34.199	.000
Depression	Constant	.285	.081	10.007	2,341		4.177	.000
	Secondary Traumatic Stress					.005	.068	.946
	Interpersonal Resilience					-.273	-4.381	.000
Sociality	Constant	.611	.374	67.673	2,341		-1.453	.147
	Secondary Traumatic Stress					-.654	-11.652	.000
	Interpersonal Resilience					.490	9.522	.000
Cog. Stress	Constant	.505	.255	38.889	2,341		-2.712	.007
	Secondary Traumatic Stress					.144	2.348	.019
	Interpersonal Resilience					-.565	-10.065	.000
Self-Efficacy	Constant	.983	.967	3349.050	2,341		116.351	.000
	Secondary Traumatic Stress					-.273	-21.228	.000
	Interpersonal Resilience					.668	56.714	.000

The result displayed in table 6 shows that secondary traumatic stress and interpersonal resilience jointly influenced psychosocial wellbeing among humanitarian health workers; [R^2=.324, F(2,341)=54.341, p<.001]. This means that secondary traumatic stress and interpersonal resilience jointly explained 32.4% of the variance in psychosocial wellbeing. Thus, hypothesis four was also supported. As for the dimensions of psychosocial wellbeing, the result shows that

secondary traumatic stress and interpersonal resilience jointly influenced quality sleep among humanitarian health workers; [R^2=.943, F(2,341)=1872.343, p<.001]. This means that secondary traumatic stress and interpersonal resilience jointly explained 94.3% of the variance in quality sleep. The result also shows that secondary traumatic stress and interpersonal resilience jointly influenced burnout tendency among humanitarian health workers; [R^2=.458, F(2,341)=95.705, p<.001]. This means that secondary traumatic stress and interpersonal resilience jointly explained 45.8% of the variance in burnout tendency.

The result also shows that secondary traumatic stress and interpersonal resilience jointly influenced healthy relationships among humanitarian health workers; [R^2=.840, F(2,341)=596.111, p<.001]. This means that secondary traumatic stress and interpersonal resilience jointly explained 84% of the variance in healthy relationships. The result also shows that secondary traumatic stress and interpersonal resilience jointly influenced depressive symptoms among humanitarian health workers; [R^2=.081, F(2,341)=10.007, p<.001]. This means that secondary traumatic stress and interpersonal resilience jointly explained 8.1% of the variance in depressive symptoms. The result also shows that secondary traumatic stress and interpersonal resilience jointly influenced social interactions among humanitarian health workers; [R^2=.374, F(2,341)=67.673, p<.001]. This means that secondary traumatic stress and interpersonal resilience jointly explained 37.4% of the variance in social interactions. The result also shows that secondary traumatic stress and interpersonal resilience jointly influenced cognitive stress among humanitarian health workers; [R^2=.255, F(2,341)=38.889, p<.001]. This means that secondary traumatic stress and interpersonal resilience jointly explained 25.5% of the variance in cognitive stress. The result shows that secondary traumatic stress and interpersonal resilience jointly influenced self-efficacy among humanitarian health workers; [R^2=.967, F(2,341)=3349.050, p<.001]. This means that secondary traumatic stress and interpersonal resilience jointly explained 96.7% of the variance in self-efficacy.

Over all, the result indicated that secondary traumatic stress and interpersonal resilience jointly influenced the psychosocial wellbeing of humanitarian health workers in the following magnitudes; self-efficacy (96.7%), quality of sleep (94.3%), health relationship (84%), burnout tendency (45.8%), social interaction (37.4%), cognitive stress (25.5%) and depressive symptoms (8.1%).

Discussion

Hypothesis one was tested to find out if secondary traumatic stress significantly influenced psychosocial wellbeing among humanitarian health workers in Northwestern Nigeria. Findings indicated that secondary traumatic stress negatively influenced psychosocial wellbeing among humanitarian health workers. Secondary traumatic stress is characterized by intrusive thoughts, avoidance behaviours and hypersensitivity. Workers experiencing these symptoms often complain of having flashbacks, nightmares, anxiety invoked by trauma-related events, and extreme sensitivity and startled behaviours that constitute discomfort and maladaptation for these workers. It is therefore, not strange for these symptoms to affect the quality of sleep, burnout tendency, relationships, cognitive stress, depressive symptoms, social interaction and self-efficacy of

humanitarian health workers. The implication of this finding is that, if humanitarian health workers are not constantly supported by clinical psychologists, they may be at risk for elevated levels of stress, be prone to depression, poor quality of sleep, poor quality of relationship within and outside work, reduced interest in sociality and eventually a tendency to experience job burnout. Therefore, this finding agrees with Lorenz (2023) who recently found that secondary traumatic stress had a significant negative influence on psychosocial wellbeing among emergency workers. Another recent study by Adams et al. (2023) revealed that secondary trauma was positively associated with the psychological distress experienced by social workers when other risk factors were controlled. Dilapdilap and Marzan (2023) also revealed a significant negative relationship between secondary traumatic stress and psychological wellbeing. Another similar study by Bock et al. (2020) found that nurses experiencing secondary traumatic symptoms reported higher depression and anxiety scores compared to nurses without secondary trauma experience, and to nurses with secondary trauma experience but without secondary traumatic stress symptoms. It is indeed not strange, that all the reviewed studies agreed that secondary traumatic stress affects psychosocial wellbeing.

Hypothesis two was tested to find out if interpersonal resilience significantly influenced psychosocial wellbeing among humanitarian health workers in Northwestern Nigeria. Findings indicated that interpersonal resilience positively influenced psychosocial wellbeing among humanitarian health workers. Interpersonal resilience is characterized by the ability to use one's social skills to create social relationships that could be useful in bouncing back from the impact of stress. It covers both the positive and negative interactions that humanitarian health workers may have among their colleagues, with beneficiaries or even their family members. This finding implies that for humanitarian health workers to experience high levels of psychosocial wellbeing, they will need to have interpersonal resilience skills in the form of positive interaction strategies where they will develop a network of both colleagues and family members where they can get available support to help them bounce back from the impact of stressors. This finding tallies with Rustamov et al. (2023) who revealed that psychological resilience influences mental wellbeing among adults. Another related study by Nadhira et al. (2023) revealed a significant positive relationship between resilience and subjective well-being among employees. Another recent study by Bagereka et al. (2023) revealed that psychosocial wellbeing was positively correlated with resilience. Another consonant study by Tseliou and Ashfield-Watt (2022) found that poor interpersonal resilience was closely associated with poor mental health and psychosocial wellbeing.

Hypothesis three was tested to find out if interpersonal resilience significantly moderated between secondary traumatic stress and psychosocial wellbeing among humanitarian health workers in Northwestern Nigeria. Findings indicated that interpersonal resilience significantly moderated the relationship between secondary traumatic stress and psychosocial wellbeing among humanitarian health workers. Interpersonal resilience is a protective factor for stress, therefore it is expected that high levels of interpersonal resilience will promote psychosocial wellbeing even in the presence of traumatic experiences. This finding thus is in consonance with Guldas and Karsli (2023) found that spiritual resilience moderated the relationship between psychological stress and mental health. Similarly, Savkli and Gurbuz (2023) found that the relationship between traumatic stress symptoms and suicide ideation was significant for people with low resilience levels but not

for those with medium and high resilience levels. This also indicates the role of resilience in neutralizing the impact of traumatic stress on health workers.

Hypothesis four was tested to find out if secondary traumatic stress and interpersonal resilience jointly influence psychosocial wellbeing among humanitarian health workers in Northwestern Nigeria. Findings indicated that secondary traumatic stress and interpersonal resilience jointly influenced psychosocial wellbeing among humanitarian health workers. This finding tallies with Perstling and Rothmann (2022) who found a significant joint influence of secondary traumatic stress, hardiness and life satisfaction on psychological wellbeing among social workers. This finding is likely because if secondary traumatic stress and interpersonal resilience predicted psychosocial wellbeing on independent basis, then it is possible for these two factors to produce a significant joint influence on psychosocial wellbeing among humanitarian health workers.

Recommendations

In line with the finding derived from the present study, the researchers recommended the following measures:

i. Across all humanitarian organizations, health workers should engage in bi-monthly mental health and psychosocial support examination where their risk and predisposition to secondary traumatic stress will be evaluated and if evident, subjected to immediate mental health support to reduce the chances of such workers developing posttraumatic stress disorder in the long-run.
ii. Clinical psychologists supporting staff in humanitarian contexts should create opportunities for staff to develop their interpersonal skills via team bonding activities, social and recreational outings, peer network development, and a culture of peer support within each organization. The target of this programme will be to help staff understand the importance of positive social interaction and healthy relationship network (two dimensions of psychosocial wellbeing) which are key drives for interpersonal resilience.
iii. Clinical psychologists across all non-governmental organizations are saddled with the task through their respective Technical Working Groups (TWGs), to develop interpersonal resilience programmes and schedule trainings for all staff both onsite (face2face) and online via training platforms. This training intervention will augment the gap where staff are exposed to numerous traumatic stressors but are deficient in the interpersonal resiliency skills to tackle these stressors and safeguard their wellbeing.

Contributions to Knowledge

The innovative nature of this research cannot be over-emphasized. The study has unveiled numerous facts and findings that are relevant in multidimensional ways:

i. The study used moderation models to identify protective factors for psychosocial wellbeing among humanitarian health workers. This implies that the study has revealed the importance of interpersonal resilience in promoting staff wellbeing despite the

prevailing traumatic incidents surrounding emergency contexts. The study thus reiterates the need for clinical psychologists to design resilience programmes to serve as antidotes for stress-related responses in humanitarian settings.

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