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Prevalence and factors associated with compassion fatigue among public health professionals

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Abstract:
Compassion fatigue (CF) is a recognized occupational hazard among healthcare professionals, particularly in resource-constrained public health settings. This study aimed to determine the prevalence of CF and its associated factors among public health professionals in Aurora Province, Philippines. A descriptive, cross-sectional design was employed, using stratified random sampling with proportional allocation. Data were collected from 121 participants—including physicians, nurses, midwives, and medical technologists—through demographic and occupational questionnaires and the Professional Quality of Life Scale (ProQOL version 5). Results revealed high levels of compassion satisfaction (CS), low to average levels of burnout (BO), and average levels of secondary traumatic stress (STS), culminating in moderate levels of CF. At the same time, CS showed no significant correlation with CF ($\rho = -0.114$, $p = 0.214$), both BO ($\rho = 0.856$, $p < .001$) and STS ($\rho = 0.892$, $p < .001$) were strongly associated with CF. Job satisfaction emerged as a protective factor across all dimensions. These findings underscore the emotional resilience of public health professionals and highlight the need for targeted interventions addressing workload, rest, and job fulfillment. This study contributes context-specific evidence to inform the development of mental health strategies and policy for frontline healthcare workers in low-resource environments.

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INTRODUCTION

Compassion fatigue (CF) results from stress and burnout (BO) among healthcare professionals. It is considered the “cost of caring” and a significant contributing factor to healthcare's decline in compassion (Sinclair et al., 2017). CF is described as a consequence of chronic exposure to work-related stress and can be considered a professional hazard among healthcare professionals (Babineau & Wu, 2019; Powell, 2020; Wang et al., 2020; Xie et al., 2021). Public health professionals in the Philippines face challenges related to outdated health infrastructures, limited medical supplies, understaffing, and inadequate financial resources. The compounding effects of work-related challenges and stressful environments predispose public healthcare professionals to CF.

Several studies on CF among health professionals have been conducted, but the focus has been primarily on clinical settings. Moreover, there is a dearth of literature exploring CF among midwives and medical technologists, as most existing studies focus on physicians and nurses. A meta-analysis of 71 published studies established that CF exists across multiple healthcare practitioner groups (Cavanagh et al., 2020). Additionally, a systematic review of studies on CF across 11 countries by Xie et al. (2021) found that nurses from the Asian region suffer from severe CF syndrome more frequently than nurses from the Americas and Europe. On the other hand, a study by Gribben et al. (2019) revealed that 16.4% of physicians in pediatric emergency medicine in the United States experience CF, while 21.5% experience BO. Lastly, Qu et al. (2022) found in a study

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among Chinese midwives that the prevalence of BO was 59.71%, while STS was 61.65%. BO and STS are considered to be facets of CF.

CF is associated with physical, emotional, and psychological symptoms. It is also identified as one of the causes of diminishing quality and effectiveness of care (Cavanagh et al., 2020; Labrague & de Los Santos, 2021; Powell, 2020; Wang et al., 2020) and a contributing factor for attrition or high turnover rate among healthcare professionals (Labrague & de Los Santos, 2021; Pérez-García et al., 2021). Other identified consequences of CF include challenges in performing the duties of a health worker, negative impacts on family and personal life, anxiety, and stress (Pérez-García et al., 2021).

CF is an occupational hazard that affects both patient care and the personal lives of healthcare providers (Bayuo & Agbenorku, 2022; Powell, 2020). Coetzee & Laschinger (2018) emphasized the need to address the root causes of CF, including the lack of resources in healthcare facilities and the high stress level among healthcare staff. McGrath et al. (2022) found that healthcare workers in rural and remote areas encounter unique contextual stressors that their urban counterparts do not, potentially making them more susceptible to CF.

The saturation of existing research on CF in high-income countries presents a challenge in developing contextually appropriate interventions for healthcare providers in low-resource settings (Sweileh, 2020). Examining CF among public health professionals in community-based environments is essential, particularly given its direct impact on mental and emotional well-being and its downstream effects on the quality and effectiveness of care delivered to underserved populations.

This study aims to determine the prevalence of compassion fatigue and its associated factors among public health professionals in Aurora Province, Philippines. Specifically, it addresses the following research questions: (1) What is the demographic and occupational profile of public health workers? (2) What is their level of compassion satisfaction? (3) What is their level of compassion fatigue, assessed through its two dimensions—burnout and secondary traumatic stress? (4) Are there significant relationships between demographic and occupational characteristics and levels of compassion fatigue?

By addressing these questions, the study advances knowledge in several keyways. First, it contributes empirical data from a low-income, community-based setting—an area notably underrepresented in the global CF literature. Second, it expands the scope of CF research beyond commonly studied professions such as nursing and medicine, offering insights into midwifery and medical technology roles. Third, the findings provide a foundation for evidence-informed policy development and targeted interventions that are culturally and contextually relevant to the Philippine public health system. Ultimately, this study enhances understanding of CF in resource-constrained environments and supports the creation of sustainable strategies to protect both healthcare providers and the communities they serve.

METHOD

Aims and research design

This study employed a quantitative, descriptive design with a cross-sectional approach to examine CF's prevalence and associated factors among Aurora Province, Philippines, public health professionals. While this design was appropriate for capturing data simultaneously, several limitations should be acknowledged. First, the study's cross-sectional nature restricts the ability to infer causality or track changes in CF over time. Second, self-administered questionnaires may have introduced response bias or inaccuracies due to social desirability or subjective interpretation, potentially affecting the internal validity of the findings. Third, the geographic focus on Aurora Province limits the external validity and generalizability of the results to other regions or healthcare settings. Lastly, the study did not account for other potentially influential variables—such as organizational culture, individual coping strategies, and personal life stressors—which may have contributed to CF but were beyond the scope of the current analysis.

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Settings and participants

Aurora Province was selected as the study site due to its rural and geographically isolated characteristics, contributing to limited healthcare infrastructure and heightened demands on public health professionals. Comprising eight municipalities and 118 Barangay Health Stations, the province hosts a diverse range of public health workers—including physicians, nurses, midwives, and medical technologists—making it a contextually appropriate setting for examining CF in community-based healthcare environments.

Participant selection followed a systematic and ethically guided procedure. The Provincial Health Office provided an official roster of currently employed public health professionals across the province. This list was screened using predefined inclusion criteria: (1) active employment as a public health professional in Aurora Province; (2) a minimum of one year of service in their current role; (3) active duty status during the data collection period; and (4) provision of informed consent to participate. Exclusion criteria included: (1) less than one year of tenure in public health service; (2) inactive status or extended leave during data collection; (3) roles limited to administrative or technical support; (4) refusal to provide informed consent; and (5) submission of incomplete or invalid responses to the ProQOL questionnaire.

Recruitment was conducted through direct, face-to-face engagement at municipal health centers, with the assistance and approval of the respective Municipal Health Officers. The study employed stratified random sampling with proportional allocation to ensure equitable representation across professional categories and minimize sampling bias. The target sample size was calculated using Slovin's formula (N = 174; e = 0.05), yielding a required sample of 121 participants. Final selection was executed via simple random sampling using Microsoft Excel software.

Table 1. Study population and sample size

Professions	N	%	n
Physicians	7	4.02	5
Nurses	68	39.08	47
Midwives	91	52.30	63
Medical Technologists	8	4.60	6
Total	174	100	121

The sample comprised 121 public health professionals: 5 physicians, 47 nurses, 63 midwives, and six medical technologists. All participants met the eligibility criteria and were actively serving in one of the eight municipalities of Aurora Province at the time of data collection.

Data collection tools and procedures

This study used descriptive and occupational questionnaires and the Professional Quality of Life Scale (ProQOL) version 5 to collect data from the respondents.

Demographic and Occupational Questionnaire

The demographic & occupational questionnaire consisted of 13 questions based on identified contributing or related variables to CF through a literature review (Cavanagh et al., 2020; Garnett et al., 2023; Labrague & de Los Santos, 2021; Osei-Adu & Guerra-Polancos, 2019; Soriano et al., 2024; Wang et al., 2020; Yeşil & Polat, 2023). The demographic profile consisted of seven questions (age, gender, civil status, educational attainment, monthly income, having a child/children, and number of hours of sleep per day). On the other hand, the occupational profile portion of the questionnaire included six questions (profession, years of public health experience, number of working hours per week, area of assignment, assignment to own hometown, and job satisfaction).

Professional Quality of Life Scale (ProQOL) version 5

B. Hudnall Stamm developed the ProQOL, the most widely used tool for assessing CS and CF. It was designed to measure both the negative and positive elements among individuals who assume the role of professional helpers (Cavanagh et al., 2020). The ProQOL assesses three constructs through a 30-item scale, divided into two dimensions: the positive (CS) and the negative (CF), which is further broken down into BO and STS (Ondrejková & Halamová, 2022). The self-administered research questionnaires were distributed to the respondents according to their

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preference: online through Google Forms or in a printed survey packet. The data collection period ran from May 15 to May 31, 2025

Respondents rated each of the 30 items on a 5-point scale (1 = never, 5 = very often) based on their current work situation and the frequency of the described feelings over the past 30 days. The sum of items 3, 6, 12, 16, 18, 20, 22, 24, 27, and 30 reflects CS, while items 1, 4, 8, 10, 15, 17, 19, 21, 26, and 29 indicate BO. Additionally, items 2, 5, 7, 9, 11, 13, 14, 23, 25, and 28 represent STS. Lastly, the level of CF was measured by combining BO and STS scores. The total score per subscale ranges from 10 to 50 and is categorized as low (<22), average or moderate (23–41), and high (≥42) (Abou Hashish & Ghanem Atalla, 2023; Clark et al., 2022; Jaramillo-Cartwright et al., 2025).

According to Stamm (2010), the ProQOL version 5 exhibits good construct validity and has been cited in over 200 published scientific papers and over 100,000 online articles. The reported internal consistency for the three subscales of the ProQOL version 5 is Cronbach's alpha values of 0.88 for CS, 0.75 for BO, and 0.81 for STS (Geoffrion et al., 2019). This study evaluated the internal consistency of the four outcome measures—CS, BO, STS, and CF — using McDonald's ω and Cronbach's α, with corresponding 95% confidence intervals. The CS scale demonstrated excellent internal consistency, with McDonald's ω = 0.855 (95% CI [0.816, 0.894]) and Cronbach's α = 0.852 (95% CI [0.807, 0.888]). Similarly, the CF scale showed high reliability, with McDonald's ω = 0.853 (95% CI [0.815, 0.891]) and Cronbach's α = 0.844 (95% CI [0.801, 0.880]). The STS scale also exhibited strong reliability, with McDonald's ω = 0.817 (95% CI [0.769, 0.865]) and Cronbach's α = 0.811 (95% CI [0.756, 0.856]).

In contrast, the BO scale showed acceptable but comparatively lower internal consistency, with McDonald's ω = 0.732 (95% CI [0.661, 0.803]) and Cronbach's α = 0.712 (95% CI [0.629, 0.780]). While still within an acceptable range for psychological scales, these values suggest that the BO measure may benefit from further refinement or review. These findings affirm that the CS, STS, and CF subscales demonstrate robust reliability, whereas the BO scale demonstrates marginally lower but acceptable internal consistency in the current sample.

Ethics

All researchers involved in the study completed formal training and certification in Good Clinical Practice and Ethics in Research to ensure adherence to internationally recognized standards, including the Declaration of Helsinki: Medical Research Involving Human Participants (World Medical Association, 2025). Ethical clearance was granted by the Technical and Ethical Committee of the University of the Northern Philippines (Approval No. A-2025-156). Before data collection, institutional permissions were secured from the Head of the Provincial Health Office and the Municipal Health Officers of each participating municipality.

Principles of autonomy, confidentiality, and voluntary participation guided the ethical process during data collection. Recruitment was conducted through face-to-face visits to health centers, either by the principal investigator or trained research assistants, during which the study's objectives, procedures, risks, and benefits were clearly explained to potential participants. Informed consent was obtained in writing from each participant, emphasizing their right to decline or withdraw from the study without penalty. Participants were assured that all responses would be anonymized and handled with strict confidentiality, and that data would be used solely for research purposes.

These procedures ensured that participants were fully informed and protected throughout the study, aligning with ethical standards for research involving human subjects.

Statistical analysis

All analyses were performed using R (version 4.3.2) and JASP (version 0.17.2.1). Descriptive statistics were used to summarize the demographic and outcome variables. The Shapiro–Wilk test was applied to assess the normality of continuous scores. As the data were not normally distributed, non-parametric tests were used throughout.

The Mann–Whitney U test was employed to compare two independent groups, while the Kruskal–Wallis H test was used to compare three or more groups. When Kruskal–Wallis tests showed significant results, pairwise comparisons were conducted using Dunn's post hoc test with

Bonferroni correction. Effect sizes were reported as r for Mann–Whitney tests and epsilon-squared (ε^2) for Kruskal–Wallis tests. Analyses in R were conducted using the dplyr, coin, FSA, and rstatix packages, while JASP was used to verify effect size estimates and cross-tabulations. Statistical significance was set at $p < 0.05$.

RESULT

Demographic and occupational profile

The study sample consisted of 121 public health professionals. The majority were aged 30 to 39 years (52.9%), followed by those aged 20 to 29 years (19.8%) and 50 to 59 years (16.5%). Most participants identified as female (80.2%) and were married (58.7%), while 31.4% were single. Regarding education, 68.6% of respondents have completed a college degree, 22.3% hold a certificate or diploma, and 9.1% hold postgraduate degrees. Income varied, with the most significant proportions earning ₱30,000–₱39,999 (26.4%) or ₱40,000–₱49,999 (27.3%). Approximately 69.4% of participants had children.

Regarding occupational characteristics, most respondents reported working 40–49 hours per week (87.6%), with the remainder working more than 50 hours per week. The majority were assigned to the municipalities of Maria Aurora (19.0%), San Luis (14.0%), and Dingalan (13.2%). More than three-quarters (77.7%) were working in their hometowns, with most reporting job satisfaction (81.0% satisfied or very satisfied). Midwives (52.1%) and nurses (38.8%) were the most common professions, and respondents had varying years of experience, with a large group (35.5%) having worked for 6–10 years.

Levels of CS, BO, STS, and CF across different professions

Table 2. Mean Scores and Levels of CS, BO, STS, and CF across Professions (N = 121)

Professions	Mean ± SD	CS	BO	STS	CF
Physicians (N = 5)	M	43.20	22.00	25.60	47.60
	SD	± 4.81	±3.53	± 6.18	± 9.18
Nurses (N = 47)	M	42.40	21.70	23.25	44.95
	SD	± 4.45	± 5.47	± 5.25	± 9.28
Midwives (N = 63)	M	41.65	23.25	25.74	49.00
	SD	± 5.02	± 4.39	± 5.69	± 9.09
Medical Technologists (N = 6)	M	39.16	21.50	23.16	44.66
	SD	± 2.85	± 2.88	± 4.30	± 5.27

Table 2 shows the mean of the summated scores for the CS subscale across various professions. The mean scores were: physicians (43.20, SD = ±4.81), nurses (42.20, SD = ±4.45), midwives (41.65, SD = ±5.02), and medical technologists (39.16, SD = ±2.85). On the other hand, the summated scores for the CF subscale were: physicians (47.60, SD = ±9.18), nurses (44.95, SD = ±9.28), midwives (49.00, SD = ±9.09), and medical technologists (44.66, SD = ±5.27).

Table 3. Distribution of CS, BO, STS, and CF by Level

Variable	Low (%)	Average (%)	High (%)	Mean Score
CS	0.0	47.1	52.9	25.83
BO	52.9	47.1	0.0	28.89
STS	33.9	66.1	0.0	26.73
CF	38.0	62.0	0.0	47.16

Table 3 summarizes the subgroup distribution of CS, BO, STS, and CF levels. The data showed variation based on civil status, education, income, sleep duration, profession, and job satisfaction. The mean score for CS was 25.83. Reported levels of CS were high (52.9%) and average (47.1%), with no respondents classified as having low CS. The mean score for BO was 28.89, with 52.9% classified as low and 47.1% as average. STS had a mean score of 26.73, with

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66.1% classified as average and 33.9% as low. CF, calculated from BO and STS scores, had a mean score of 47.16. Reported CF levels were average (62.0%) and low (38.0%).

Subgroup analysis of CS, BO, STS, and CF levels

CS levels were reported as high across all subgroups, with no respondents classified as having low levels. The proportion of individuals with high CS was highest among those aged 30–39 years and those reporting high job satisfaction. Among the "very satisfied" group, 66.7% reported high CS, compared to 9.5% among those who were "neutral." Participants with postgraduate degrees (72.7%) and those earning ₱50,000–₱59,999 (75.0%) reported higher CS. Respondents who slept eight or more hours reported higher CS than those who slept fewer. By profession, nurses and medical technologists reported higher CS than midwives and physicians. Respondents with 1–5 years of experience and those assigned to their hometown reported higher CS.

BO levels were highest among individuals aged 40–59 years, with more than 50% classified as having an average level of BO. Female respondents reported an average BO level of 45.4%, and males at 54.2%. Individuals with common-law partners (60.0%), those who were separated (100%), and single individuals (55.3%) reported higher BO than married individuals (39.4%). Respondents with certificates or diplomas (48.1%) and college degrees (47.0%) reported higher BO than those with advanced degrees. BO was more frequently reported among lower-income groups: 91.7% of those earning ₱10,000–₱19,999, and all those earning ₱60,000–₱69,999 were classified as having average BO. Respondents sleeping 6 or 7 hours per night reported higher BO. By profession, midwives and physicians reported higher BO than nurses and medical technologists. Respondents with 26–30 years of experience had the highest average BO (75.0%), while those with 1–5 years had the lowest (29.2%). All respondents working 60–69 hours per week were classified as having average BO. Among those who were "neutral" in job satisfaction, 81.0% were classified as having average BO, and among those who were "dissatisfied," 100% were classified as average, compared to 26.7% among the "very satisfied."

STS scores were predominantly in the average range across most subgroups. Female participants reported an average STS of 68.0%, and males at 58.3%. STS was more frequently reported among respondents with children. Midwives and physicians reported higher STS than nurses and medical technologists. Higher STS levels were reported among individuals working 60–69 hours per week and those sleeping fewer than seven hours per night. Among those reporting high job satisfaction, 54.5% were classified as having average STS, compared to 100% among those who were dissatisfied.

CF scores reflected the distribution of BO and STS. Respondents aged 40–59 years reported CF at 70.0% average. Higher CF was reported among individuals with lower educational attainment and fewer hours of sleep. Certificate/diploma holders reported CF at 74.1%, higher than college or graduate holders. Respondents working in municipalities such as Dinalungan (76.9%) and Casiguran (73.3%) reported higher CF. All respondents working 60–69 hours per week were classified as having average CF. Among those who were "neutral" in job satisfaction, 81.0% were classified as having average CF, and among those who were "dissatisfied," 100% were classified as average, compared to 42.2% among the "very satisfied."

Statistical comparisons by gender, parenthood, and assignment

Mann–Whitney U tests were conducted to assess differences in CS, BO, STS, and CF levels based on binary demographic variables: gender, parental status, and assignment to one's hometown.

No statistically significant differences emerged across any comparisons, as all p-values exceeded the 0.05 threshold. For instance, CS scores did not differ significantly by gender ($Z = 0.695$, $p = 0.487$, $r = 0.063$), and BO likewise showed no significant difference between males and females ($Z = 0.677$, $p = 0.498$, $r = 0.062$).

Having children was not associated with STS ($Z = –1.022$, $p = 0.307$, $r = –0.093$), and effect sizes for CF comparisons were also negligible across gender ($Z = 0.514$, $p = 0.608$, $r = 0.047$), having children ($Z = –1.013$, $p = 0.311$, $r = –0.092$), and assignment to own hometown ($Z = 0.097$, $p = 0.923$, $r = 0.009$).

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Table 4. Mann–Whitney U Test Results for CS, BO, STS, and CF by Gender, Parenthood, and Assignment

Outcome	Variable	Z	p-value	Effect Size (r)
CS	Gender	0.695	0.487	0.063
CS	With Children	-0.884	0.377	-0.080
CS	Assignment to Hometown	0.169	0.866	0.015
BO	Gender	0.677	0.498	0.062
BO	With Children	-1.029	0.304	-0.094
BO	Assignment to Hometown	0.072	0.943	0.007
STS	Gender	0.390	0.696	0.035
STS	With Children	-1.022	0.307	-0.093
STS	Assignment to Hometown	0.100	0.921	0.009
CF	Gender	0.514	0.608	0.047
CF	With Children	-1.013	0.311	-0.092
CF	Assignment to Hometown	0.097	0.923	0.009

Group differences by demographic and occupational variables

To examine whether levels of CS, BO, STS, and CF varied across multi-category demographic and occupational factors, Kruskal–Wallis H tests were performed on variables such as age, civil status, educational attainment, income, sleep duration, profession, years of experience, working hours, and job satisfaction.

Table 5 showed that while no results reached statistical significance at the $p < 0.05$ level, several comparisons approached significance. BO varied by job satisfaction ($H = 7.71$, $df = 3$, $p = 0.053$, $\eta^2 = 0.026$), and CF showed marginal differences by income bracket ($H = 17.22$, $df = 10$, $p = 0.070$, $\eta^2 = 0.057$) and sleep duration ($H = 12.18$, $df = 6$, $p = 0.058$, $\eta^2 = 0.041$).

For all other predictors—including age, civil status, profession, education, work hours, years of experience, and assignment—no significant group differences in CS, BO, STS, or CF were observed (all $p > 0.05$), with consistently small effect sizes ($\eta^2 < 0.05$).

Table 5. Kruskal–Wallis H Test Results for Demographic and Occupational Predictors

Predictor	Outcome	df	H	p	η2
Income	CF	10	17.22	0.070	0.057
Hours of Sleep	CF	6	12.18	0.058	0.041
Job Satisfaction	BO	3	7.71	0.053	0.026
All Other Predictors	All		ns	>0.10	<0.04

Relationship between subscales of ProQOL version 5

Due to non-normal distributions of the outcome variables, Spearman's rank-order correlations (ρ) were used as the primary analysis method. Pearson's correlations (r) were reported for reference and comparison only.

Table 6 shows that statistically significant associations were observed exclusively among BO, STS, and CF measured constructs. Specifically, BO was strongly positively correlated with STS ($\rho = 0.554$, $p < 0.001$), and both were highly correlated with CF: BO ($\rho = 0.856$, $p < 0.001$) and STS ($\rho = 0.892$, $p < 0.001$). CS showed no statistically significant correlations with BO ($\rho = –0.100$, $p = 0.273$), STS ($\rho = –0.110$, $p = 0.232$), or CF ($\rho = –0.114$, $p = 0.214$). None of these p-values met the threshold for statistical significance ($p < 0.05$).

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Table 6. Correlation Analyses of ProQOL version 5 Subscales

Subscales		CS	BO	STS	CF
CS	Spearman's rho	-	-0.100	-0.110	-0.114
	p-value		0.273	0.232	0.214
	Pearson's r		-0.119	-0.137	-0.145
	p-value		0.195	0.135	0.112
BO	Spearman's rho			0.554***	0.856***
	p-value			< .001	< .001***
	Pearson's r			0.562***	0.864***
	p-value			< .001	< .001
STS	Spearman's rho				0.892***
	p-value				< .001
	Pearson's r				0.902
	p-value				< .001

* p < 0.05, ** p < 0.01, *** p < 0.001

DISCUSSION

This study examined the prevalence of CF and its associated factors among public health professionals in Aurora Province, Philippines. It explored their demographic and occupational profiles, levels of compassion satisfaction, and CF—measured through burnout and secondary traumatic stress—and analyzed the relationships among these variables. Among the 121 respondents, most exhibited high levels of CS, low levels of BO, and moderate levels of STS, resulting in an overall moderate level of CF. These findings provide a clear profile of the emotional well-being of public health workers in the study locale and affirm that, despite the challenges of community-based care, many professionals continue to derive meaning and fulfillment from their roles.

The study explored how demographic and occupational factors affect CF among public health professionals. Although most variables did not show statistically significant associations, income and sleep duration emerged as potential contributors to CF, suggesting that financial stability and adequate rest may play protective roles in emotional well-being.

The consistently high CS levels reflected a strong sense of purpose and fulfillment among public health workers. Notably, CS did not vary significantly across a wide range of demographic and professional characteristics, indicating that the intrinsic rewards of caregiving may transcend individual differences. High CS in specific subgroups—such as those with postgraduate education, higher income, longer sleep duration, and hometown assignments—aligns with findings from previous research (Xie et al., 2021). These factors may buffer against emotional exhaustion and enhance professional satisfaction. For instance, working in one's hometown likely reduces travel stress and separation from family, contributing to a more supportive and stable work-life balance.

These insights underscore public health professionals' resilience and capacity to find meaning in their roles despite systemic challenges. They also point to actionable areas—improving sleep hygiene, supporting continuing education, and facilitating hometown placements—that could further strengthen the workforce's emotional well-being and job satisfaction.

BO is a psychological condition marked by chronic emotional exhaustion, depersonalization, and a reduced sense of personal accomplishment in professional roles (Patel et al., 2018). This study's statistical analysis revealed no significant differences in BO levels across gender, parental status, or hometown assignment. Although the relationship between BO and job satisfaction approached statistical significance, it did not reach a conclusive threshold. Similarly, no statistically significant associations were found between BO and other variables such as age, civil status, profession, education, work hours, years of experience, or place of assignment.

Despite the lack of statistical significance, the observed patterns suggest that specific demographic and occupational factors may still influence BO levels. The association between shorter sleep duration and elevated BO aligns with findings from Rayani et al. (2024), reinforcing the importance of adequate rest in mitigating emotional fatigue. In contrast, the higher BO levels among

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older health workers and those with longer experience diverge from previous studies conducted in clinical and rural settings (Bahari et al., 2022; Bayuo & Agbenorku, 2022; McGrath et al., 2022), which typically associate age and experience with increased resilience. This discrepancy may reflect contextual differences between clinical and public health environments, including variations in workload, organizational culture, and support systems.

The elevated BO levels among physicians and midwives may be attributed to the demands of their roles, particularly their availability as first responders during emergencies and labor. These responsibilities likely contribute to sustained stress and emotional fatigue. Given that many comparative studies were conducted in clinical settings, further investigation into the unique characteristics of community and public health work environments is warranted to better understand their impact on BO.

BO has been consistently linked to adverse outcomes, including increased risk of depression, reduced job satisfaction, compromised patient safety and care quality, lower patient satisfaction, and diminished organizational commitment and productivity (Bayuo & Agbenorku, 2022; Jun et al., 2021). Addressing BO among public health workers is therefore critical. Institutional policies should prioritize mental health support, resilience training, and workload management to foster a sustainable and effective healthcare workforce.

STS encompasses the emotional and behavioral responses that arise from indirect exposure to others' traumatic experiences. This study's statistical analysis found no significant associations between STS and variables such as gender, parental status, hometown assignment, age, civil status, profession, education, work hours, years of experience, or place of assignment.

Despite the absence of statistically significant relationships, the observed trends suggest that specific subgroups may be more susceptible to STS. Slightly elevated levels among females, individuals with children, midwives, and physicians may reflect the compounded emotional demands of both professional and personal caregiving roles. The nature of midwifery and medical practice—particularly the expectation for round-the-clock availability—likely contributes to increased emotional strain, especially in high-pressure or emergency situations.

Similarly, higher STS levels among those working extended hours and sleeping less than seven hours per night point to the impact of physical fatigue and insufficient recovery time on emotional resilience. These findings align with broader research emphasizing the role of rest and workload management in mitigating secondary trauma.

While STS levels remained within the average range overall, the subtle elevations in specific groups highlight the importance of monitoring emotional well-being in high-demand roles. Tailored interventions such as trauma-informed care training, structured peer support, and policies promoting adequate rest may help reduce the cumulative impact of secondary trauma in public health settings.

CF is a multidimensional construct shaped by various personal and professional factors. This study's statistical analysis revealed no significant relationships between CF and a range of demographic and occupational variables, including gender, parental status, hometown assignment, age, civil status, profession, education, work hours, and place of assignment. Although statistical significance was observed concerning income bracket and sleep duration, the findings did not support definitive conclusions.

Nonetheless, the patterns observed in the data suggest that CF may be more pronounced among professionals aged 40–59, those with lower educational attainment, reduced sleep, longer working hours, and those assigned to more remote or isolated areas. These trends are consistent with existing literature that identifies extended work hours and insufficient rest as contributing factors to CF (Cavanagh et al., 2020; Jilou et al., 2021; Soriano et al., 2024; Wang et al., 2020). The implication is clear: promoting work-life balance and ensuring adequate rest may be critical in mitigating CF among public health workers.

In the Philippine context, health worker assignments are primarily determined by community needs, which limits the possibility of aligning placements with hometowns. While assigning professionals to their local communities may help reduce CF, systemic constraints such as uneven facility distribution, skill mismatches, and equity concerns complicate this approach.

The absence of statistically significant differences in CF across public health professions contrasts with findings from other studies, which report higher CF levels among nurses and

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physicians (Kartsonaki et al., 2023; Ondrejková & Halamová, 2022). This discrepancy may reflect differences in work environments, with clinical settings typically involving greater stress exposure, more demanding shift schedules, and higher patient acuity than community-based roles.

Job satisfaction emerged as a key protective factor against BO, STS, and CF, aligning with prior research (Wang et al., 2020; Yuan et al., 2024). This underscores the importance of organizational strategies that enhance workplace fulfillment. Interventions such as resilience training and counseling have been shown to improve job satisfaction and reduce emotional exhaustion (Gümüş et al., 2025).

This study's lack of a statistically significant relationship between CS and CF diverges from previous findings that suggest a negative correlation between these constructs (Algamdi, 2022). However, the strong associations observed between CF, BO, and STS reinforce the theoretical foundation of the ProQOL framework, confirming that BO and STS are closely linked contributors to CF. At the same time, CS may function as a distinct and less directly protective dimension within this sample.

CF poses a serious challenge to the public health workforce, with implications for patient outcomes, staff retention, and overall system efficiency. Addressing CF is essential to prevent emotional depletion, diminished empathy, and professional disengagement. Literature suggests that fostering a supportive work environment, enhancing job conditions, and promoting wellness initiatives—such as sleep hygiene education, nutritional guidance, self-care practices, emotional expression, peer support, and regular physical activity—can help mitigate CF (Berger et al., 2022; Bingöl et al., 2025; Jilou et al., 2021; Marshman et al., 2022). Embedding these strategies into institutional frameworks may strengthen the psychological resilience of public health professionals.

Given the scope of this study, which primarily examined CF prevalence and select associated factors, further research is warranted to explore additional contributors to CF. Expanding the inquiry to include organizational dynamics, coping styles, and systemic pressures could yield a more nuanced understanding of CF's origins. Moreover, investigating the downstream effects of CF—such as its influence on patient care quality and staff turnover—would offer valuable insights for health administrators and policymakers. Finally, rigorous evaluation of intervention models is needed to identify evidence-based approaches that effectively safeguard vulnerable public health workers from the adverse consequences of CF.

CONCLUSION

This study found that public health professionals generally reported high levels of CS, low levels of BO, and average levels of STS and CF. Although descriptive patterns suggested associations between BO and CF with factors such as job satisfaction, sleep duration, and income, inferential analyses did not yield statistically significant group differences. These findings are consistent with existing literature, reinforcing the protective influence of job satisfaction across multiple dimensions of professional quality of life.

Despite the favorable outcomes, BO, STS, and CF remain salient concerns for specific subgroups—particularly midwives, physicians, and individuals experiencing longer work hours, lower income, and inadequate sleep. These patterns highlight the need for targeted interventions that address the emotional demands of public health work.

Institutional support through policy reform, workplace wellness initiatives, and mental health resources is imperative to sustain a resilient and effective workforce. Future research should adopt a broader scope to examine additional determinants of CF and evaluate practical strategies for prevention. Investigating organizational and psychosocial factors—such as positive feedback mechanisms, mental health promotion, and peer support—may offer critical insights into enhancing professional quality of life and mitigating emotional strain among public health professionals.

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CONFLICT OF INTEREST

The authors declare no potential conflict of interest concerning the conduct of this research, its authorship, and publication.

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