

Original article

Quality of life among community health workers in the districts of Koppal, Raichur and Mysore, Karnataka State, India

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ARTICLE INFO

Keywords:
WHOQOL-BREF
Quality of life
ASHAs
HIOs
PHCOs

ABSTRACT

Aim: To explore the Quality of life among the community health workers and its association with the socio-demographic variables.

Subject and methods: A cross-sectional study was conducted among 739 Community Health Workers (CHWs), where a multistage random sampling technique was used and three districts were selected based on the proportion of Accredited Social Health Activist (ASHA) in the districts of Karnataka. "WHOQOL-BREF" was used along with a Sociodemographic profile to determine the Quality of Life (QoL) among the CHWs. Multivariate regression models, T-test and ANOVA tests were used for the analysis.

Results: The overall Quality of life mean \pm SD was 3.4 ± 0.95 . Domain-wise social relationship was found to be highest with a mean \pm SD of 66.5 ± 21.7 and Environmental domain was found to be the least with a mean \pm SD of 48.6 ± 16.6 . The Multivariate regression models reveal that education up to primary level, an individual income of INR 5000 and more, and family income of INR 15000 to 40000 contribute to the higher score, whereas total family members of 5–8, age 25 to 44, and education of secondary schooling, PUC/diploma contribute to the lower scores of QoL.

Conclusion: The results of the study showed that CHWs had neither good nor bad quality of life. And there is a need to improve physical and environmental factors such as job satisfaction, population coverage, better income, physical safety, good working environment, better transportation facilities which can improve the QoL among CHWs.

1. Introduction

Health holds paramount importance in people's lives and constitutes a key element of the United Nations' global sustainable development agenda. The World Health Organization (WHO) acknowledges that a robust health workforce is imperative for well-being. Developing nations such as India grapple with insufficient health personnel, hindering the delivery of primary health services.¹ In 2005, India launched the National Rural Health Mission (NRHM), which emphasized Community Health Workers (CHWs) as integral to health system enhancement and as the initial contact point, particularly for women and children.²

Harnessing the potential of CHWs is vital for advancing Universal Health Coverage (UHC) and achieving the Sustainable Development Goals (SDGs) under "Good Health and Well-Being".⁴ CHWs are crucial to the Indian Public Health System, however due to excessive workloads and various community and systemic challenges less effective service

delivery. These factors contribute to Compassion Fatigue (CF), which significantly impacts their physical and mental health.⁵ Globally, research has documented the job stress experienced by community health professionals.⁶

Research indicates that due to overload of work by multiple departments, CHWs health is adversely affected.⁷ The shortage of manpower and the resulting need for broader population coverage further exacerbate their workload.⁸ Limited transportation options add to CHWs' difficulties, as they spend substantial time commuting to serve communities.⁹ Introduction of new programs and tasks significantly add to their work burden and stress.^{10,3} Maintaining numerous records is another challenge, often at the expense of personal and family time.^{8,11–13} CHWs' employment within the government yet being part of the unorganized sector fuels discontent.¹⁴ Challenges related to tasks like sputum collection include fear, lack of protective gear, and resistance from the community. Furthermore, transportation of sputum to

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<https://doi.org/10.1016/j.cegh.2024.101752>

Received 15 September 2023; Received in revised form 24 July 2024; Accepted 2 August 2024

Available online 8 August 2024

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Primary Health Centre (PHC) was considered as an additional burden due to lack of transportation.¹⁵ Gender, cultural, and religious biases restrict CHWs' participation and decision-making.¹⁶ Coordination and support between departments pose additional challenges.¹³

Studies⁵ indicate that Quality of Life (QoL) of CHWs is affected by several factors including overload of work and associated stress, which often lead to burnout and reduced job satisfaction. Economic related factor were CHWs frequently receives compensation that does not align with the heavy workload, thereby exacerbating financial stress and adversely affecting their QoL.¹ Additionally, physical health and environment conditions, often characterized by inadequate healthcare infrastructure and unsafe transportation, pose significant risks and affect their psychological health.⁹ The social support and community relationships CHWs experience also influence their psychological health, where societal stigma and lack of respect contribute to social isolation.⁶ Furthermore, the limited opportunities for training and professional growth hinder their efficacy and motivation, impacting their overall well-being.¹² These elements collectively frame the context of the study, underscoring the complex challenges faced by CHWs and highlighting the necessity of research into their QoL.

Despite facing significant challenges, CHWs are crucial for advancing public health. Enhancing their QoL is essential to maintain their contributions and improve national health outcomes. While the WHO QOL-BREF tool is commonly used in India to assess patient well-being post-treatment, there is limited research on CHWs' QoL. This paper focuses on the QoL of Accredited Social Health Activists (ASHAs), Primary Health Care Officers (PHCOs), and Health Inspecting Officers (HIOs), who are key players in achieving health-related Sustainable Development Goals and improving community health.

2. Methodology

2.1. Study design, sample, and context

A cross-sectional study was conducted in three districts, Koppal, Raichur, and Mysore, Karnataka State from October 2020 to December 2021.

The study explores the overall QoL of Community Health Workers (CHWs) in Karnataka, examining how socio-demographic variables influence their duties and responsibilities. Despite the data collection occurring during the pandemic, the research aims to provide insights into the broader challenges faced by CHWs, not solely focusing on pandemic-related issues.

2.2. Sampling design

Multistage Random Sampling technique was adopted for sample selection. First, based on the proportion of ASHAs to the population of the districts,¹⁷ three districts (one with a high proportion, one with an average proportion, and one with a low proportion) were selected. Second, from each sample district, two taluks viz., one rural and one urban were chosen randomly. Third, from each taluk two–three PHCs were randomly chosen to cover the determined sample size.

2.3. Sampling size

The sample size was determined using the formula $\frac{z^2pq*(1+R)*Deff}{d^2}$ presuming a minimum of 50 % ASHAs to population proportion, non-response rate of 10 %, and confidence interval of 95 %. Total sample size was 528 ASHAs. In addition to ASHAs, all PHCOs and HIOs present at the health centers during the data collection period was included in the study. Thus, the total sample size was 739.

The inclusion of PHCOs and HIOs along with ASHAs was to enable a comparative analysis of QoL among different CHWs. This stratified approach enhanced the robustness and applicability of the findings,

deepened the understanding of role-specific challenges and the varied impacts on CHWs' QoL.

2.4. Tools of data collection

The present study used the WHOQOL-BREF, derived from the WHOQOL-100,¹⁸ for data collection, employing the Kannada version available on the WHO website with minor dialect adjustments. The questionnaire consists of 26 questions spanning four domains of QoL: Physical health, Psychological health, Social relationships, and Environment.

2.5. Methods of data collection

The CHWs were gathered in a central place, and the data were collected using a paper-based self-administered questionnaire. The average time for completion of the questionnaire was 30 min since the field staff explained each question and CHWs marked the appropriate response.

2.6. Data analysis

The WHO QOL-BREF tool used in the study consists of 26 questions: Q1 on overall life quality, Q2 on health satisfaction, and 24 questions across four domains—Physical Health, Psychological Health, Social Relationships, and Environment. These are rated on a 5-point Likert scale, from '1' (lowest) to '5' (highest). Data analysis was conducted using SPSS-28.0, employing descriptive statistics, paired T-test, ANOVA, and stepwise multiple regression, with dummy variables for multi-category independent variables. Higher scores indicate better QoL.¹⁸ Significance was set at $p < 0.05$.

3. Results

3.1. Socio-demographic characteristics

Among 739 study participants, 72.8 % were ASHAs, 7.2 % HIOs, and 20 % PHCOs. The majority were aged between 25 and 44, with a significant portion holding at least secondary education. Nearly half had over eight years of experience, and most were married (83 %), and residing in nuclear families (71 %). The largest representation was from Other Backward Classes (37 %). Regarding household income, 60 % were dual earners, with 29 % earning between INR 15,001 and INR 40,000 monthly, while 37 % earned less than INR 5000. (Table 1)

3.2. Overall quality of life and satisfaction with health

Most CHWs perceived their overall QoL and satisfaction with health as 'neutral', with a mean score of 3.4. Moreover, overall QoL and satisfaction with health were better among HIOs (3.68 and 3.81, respectively) as compared to their counterparts ASHAs (3.35 and 3.35, respectively) and PHCOs (3.46 and 3.42, respectively) (Figure-1). ASHAs' overall QoL and satisfaction with health is poor as compared to their counterparts.

3.3. Domain wise quality of life among CHWs

Among the four QoL domains, CHWs scored highest in 'Social Relationships' followed by 'Psychological Health,' with the lowest scores in the 'Environment' domain. 'Social Relationships' scored 'good' across all CHWs (above 60), while other domains were rated as 'neutral.' PHCOs led in 'Social Relationships' with a mean score of 69.2 ± 19.5 , higher than HIOs (67.4 ± 17) and ASHAs (65.75 ± 22.72).

The psychological health domain mean score ranged from 57 to 62 among CHWs, with the highest score among HIOs (62), followed by PHCOs (58) and ASHAs (57). In contrast, in the physical health domain,

Table 1
Socio-demographic characteristics of CHWs.

Question	Options	Frequency (%)
Type of CHWs	ASHA	538 (72.8)
	HIO	53 (7.2)
	PHCO	148 (20)
Age	18 to 24	26 (3.5)
	25 to 44	627 (84.8)
	45 to 64	86 (11.6)
Gender	Female	712 (96.3)
	Male	27 (3.7)
Education	Illiterate	45 (6.1)
	Primary School 1-4	196 (26.5)
	Secondary School 5-10	227 (30.7)
	PUC/Diploma	87 (11.8)
Experience in years	Graduation and above	184 (24.9)
	Up to 3 years	104 (14.1)
	4-7 years	275 (37.2)
Marital status	8 years and more	360 (48.7)
	Unmarried	69 (9.3)
	Married	612 (82.8)
Caste	Widowed	55 (7.4)
	Separated	3 (0.4)
	SC	161 (21.8)
Type of family	ST	112 (15.2)
	OBC	276 (37.3)
	Others	190 (25.7)
	Nuclear Family	526 (71.2)
Children below 14 years of age	Joint Family	200 (27.1)
	Extended Family	13 (1.8)
	0	255 (34.5)
Total members in the family	1	217 (29.4)
	2	199 (26.9)
	3 and above	68 (9.2)
	up to 4	442 (59.8)
Income of the respondent	5 to 8	264 (35.7)
	9 and above	33 (4.5)
	Below INR 5000	274 (37.1)
Earning members in the family	INR 5001 to 10000	323 (43.7)
	INR 10001 and above	142 (19.2)
	1	178 (24.1)
Household income	2	454 (61.4)
	3 and above	107 (14.5)
	Below INR 5000	74 ³
	INR 5001 to 10000	272 (36.8)
	INR 10001 to 15000	147 (19.9)
	INR 15001 to 40000	217 (29.4)
	INR 40001 and above	29 (3.9)

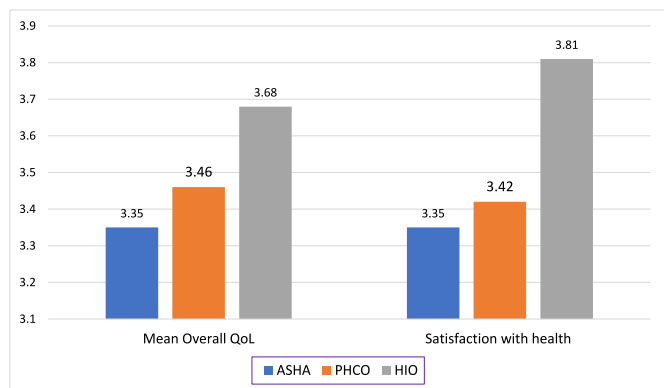


Fig. 1. Mean scores for overall QoL and satisfaction with health.

the highest mean score was among PHCOs (56), while the lowest score was among ASHAs (52). In comparison to other domains, the environment domain had the lowest mean scores across all CHWs (48), and among ASHAs (48), as opposed to PHCOs (49) and HIOs (53) (Table 2).

Thus, it is evident that ASHAs had the lowest scores in all domains compared to PHCOs and HIOs (Figure-2), indicating poor QoL among

ASHAs.

3.4. Association between socio-demographic variables across physical health domain among CHWs

Demographic factors significantly influence ‘physical health’ among respondents. Higher physical health scores were noted in males (55.69), individuals with primary education (57.49), those earning INR 10001 and above (56.14), families with more than three earners (55.47), and households earning above INR 40001 monthly (57.27). Multivariate linear regression analysis highlighted significant associations: primary education (B = 5.11), higher income levels (INR 10001 and above: B = 6.88; INR 5000 to INR 10000: B = 3.24), and households with more than three earners (B = 2.73) correlated with better physical health scores. Conversely, secondary and PUC/diploma education were linked to lower scores.

3.5. Association between socio-demographic variables across psychological health domain among CHWs

Multivariate linear regression analysis revealed a significant association between demographic factors and psychological health. Higher psychological health scores were observed among individuals aged 45 to 64 (mean = 61.72), those with primary education (mean = 63.12), specific caste members (mean = 59.49), and households earning above INR 40001 monthly (mean = 64.66). However, negative associations were found with other caste groups (B = -3.71), ages 25 to 44 (B = -3.51), families of 5-8 members (B = -2.88), and PUC/diploma holders (B = -3.38). Conversely, primary education (B = 7.92) and higher household incomes (INR 15001 to 40000: B = 3.46; above INR 40001: B = 7.28) were linked to improved psychological health.

3.6. Association between socio-demographic variables across social relationships domain among CHWs

Among Community Health Workers (CHWs), social relationships scored high at 66.5 ± 21.7 . Multivariate Linear Regression shows significant associations between social relationships and factors like education, household income, and work experience. Higher scores were noted among males (70.06), those with primary education (75.18), 4-7 years of work experience (69.70), and higher income levels. In contrast, those with PUC/diploma or secondary education scored lower in social relationships. Specifically, primary education (B = 7.85) and household incomes between INR 15001 to INR 40000 (B = 6.11), as well as 4-7 years of work experience (B = 4.29), significantly improved social relationship scores.

3.7. Association between socio-demographic variables across environment domain among CHWs

The environment domain scored the lowest among Community Health Workers (CHWs), with a mean \pm SD of 48.6 ± 16.6 . Multivariate Linear Regression analysis revealed significant demographic associations with this domain. Higher environment scores were observed in younger individuals (18-24 years, mean = 53.73), those with no formal education (mean = 53.61), and respondents in higher income brackets (INR 10001 and above: mean = 51.30; INR 40001 and above: mean = 58.84). Conversely, the age group 25-44 years (B = -4.12) showed a negative association with environment scores. In contrast, factors such as primary education (B = 5.69), household incomes between INR 15001 to INR 40000 (B = 5.42), over INR 40001 (B = 12.49), and INR 5001 to INR 10000 (B = 3.0) significantly improved scores in the environment domain (Table 3).

Table 2
Comparison of WHO QOL-BREF domain score with Socio-Demographic Variables.

Variables	Options	Frequency (%)	QoL domain mean scores			
			Physical health	Psychological health	Social relationships	Environment
Age	18 to 24	26(3.5)	57.83	61.70	70.51	53.73
	25 to 44	627(84.8)	52.03	56.78	66.10	47.75
	45 to 64	86(11.6)	54.86	61.72	68.80	53.34
P value from ANOVA			0.019	0.002	0.359	0.004
Gender	Female	712(96.3)	52.44	57.26	66.43	48.35
	Male	27(3.7)	55.69	64.66	70.06	55.56
P value from t-test			0.012	0.446	0.006	0.814
Education	Illiterate	45(6.1)	50.95	57.78	70.37	53.61
	Primary School 1-4	196(26.5)	57.49	63.12	75.81	52.54
	Secondary School 5-10	227(30.7)	48.06	53.89	60.17	45.58
	PUC/Diploma	87(11.8)	48.52	51.87	56.90	43.75
	Graduation and above	184(24.9)	55.16	58.70	68.25	49.25
P value from ANOVA			<0.001	<0.001	<0.001	<0.001
Experience in years	up to 3 years	104(14.1)	54.19	58.33	68.51	49.46
	4-7 years	275(37.2)	53.27	58.44	69.70	48.70
	8 years and more	360(48.7)	51.55	56.61	63.61	48.30
P value from ANOVA			0.101	0.213	0.001	0.816
Marital status	Unmarried	69(9.3)	51.97	59.36	65.70	49.77
	Married	612(82.8)	52.87	57.52	67.10	48.61
	Widowed	55(7.4)	49.94	54.70	61.67	46.36
	Separated	3(0.4)	51.19	69.44	66.67	64.58
P value from ANOVA			0.435	0.129	0.353	0.249
Caste	SC	161(21.8)	52.68	58.93	67.65	47.53
	ST	112(15.2)	53.73	59.49	67.71	48.63
	OBC	276(37.3)	52.89	58.30	67.84	50.15
	Others	190(25.7)	51.30	54.08	63.11	47.29
P value from ANOVA			0.415	<0.001	0.092	0.236
Type of family	Nuclear Family	526(71.2)	52.53	57.98	66.38	48.55
	Joint Family	200(27.1)	52.70	56.54	67.83	49.03
	Extended Family	13(1.8)	51.65	54.49	54.49	44.71
P value from ANOVA			0.957	0.335	0.095	0.654
Children below 14 years of age	0	255(34.5)	51.99	57.75	64.44	46.99
	1	217(29.4)	53.26	58.68	68.24	49.45
	2	199(26.9)	52.84	57.33	68.22	49.59
	3 and above	68(9.2)	51.68	53.68	64.34	49.17
P value from ANOVA			0.683	0.079	0.135	0.288
Total family members	up to 4	442(59.8)	52.76	58.38	66.12	48.66
	5 to 8	264(35.7)	51.91	55.97	67.65	48.14
	9 and above	33(4.5)	55.19	58.71	63.89	51.80
P value from ANOVA			0.351	0.074	0.514	0.490
Income of the respondent	Below INR 5000	274(37.1)	49.84	56.31	62.90	45.32
	INR 5001 to 10000	323(43.7)	53.30	57.91	68.50	50.22
	INR 10001 and above	142(19.2)	56.14	59.04	69.25	51.30
P value from ANOVA			<0.001	0.135	0.002	<0.001
Earning members in the family	1	178(24.1)	52.81	57.02	66.67	47.86
	2	454(61.4)	51.78	57.22	66.04	48.44
	3 and above	107(14.5)	55.47	59.70	68.61	50.58
P value from ANOVA			0.030	0.218	0.546	0.383
Household income	Below INR 5000	74(10)	50.10	55.80	62.84	43.96
	INR 5001 to 10000	272(36.8)	50.29	56.20	63.33	46.27
	INR 10001 to 15000	147(19.9)	53.89	56.18	66.33	48.19
	INR 15001 to 40000	217(29.4)	54.72	59.75	71.62	52.06
	INR 40001 and above	29(3.9)	57.27	64.66	69.83	58.84
P value from ANOVA			<0.001	<0.001	<0.001	<0.001

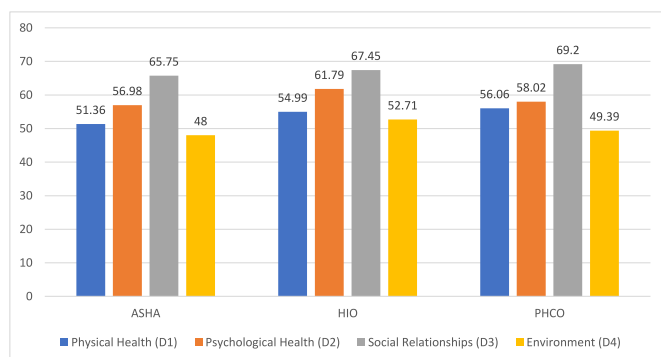


Fig. 2. Mean scores for the domains.

4. Discussion

Data collection from CHWs during the COVID-19 pandemic was difficult because they were busy with tasks ranging from contact tracing to vaccinations. Challenges viz., lack of transportation, lockdowns, and movement restrictions made it hard to gather data. These issues were overcome by scheduling data collection during regular meetings held by officials at local health centers. This allowed to collect the required data on time. Additionally, health safety protocols were strictly followed, and meetings were arranged in phases to maintain social distancing. These changes highlight the need for flexibility and careful planning in field research during a pandemic. This experience also showed how resilient and adaptable public health research needs to be during global health crises.

This study allowed to explore potential shifts in Quality of Life due to

Table 3
Multivariate Linear Regression through stepwise model between Domain and demographic variables.

	Model	Unstandardized coefficients		Standardized coefficients (β)	P-value	95 % CI for B	
		B	SE			Lower bound	Upper bound
Physical health Domain	Constant	49.87	1.19		<0.001	47.54	52.21
	Education Secondary School 5-10	-4.07	1.32	-0.144	0.002	-6.66	-1.48
	Education PUC/Diploma	-4.67	1.58	-0.115	0.003	-7.77	-1.58
	Education Primary School 1-4	5.11	1.38	0.173	<0.001	2.40	7.82
	Income_INR 10001 and above	6.88	1.47	0.207	<0.001	4.00	9.76
	Income_INR 5001 to 10000	3.24	1.01	0.123	0.001	1.26	5.23
Psychological health Domain	Earning_members_3 and above	2.73	1.31	0.074	0.037	0.16	5.30
	Constant	59.49	1.48		<0.001	56.58	62.40
	Education Primary School 1-4	7.92	1.13	0.25	<0.001	5.71	10.13
	Caste (Other)	-3.71	1.11	-0.12	<0.001	-5.89	-1.53
	Age (25-44 years)	-3.51	1.40	-0.09	0.012	-6.26	-0.76
	Total family members (5-8)	-2.88	1.01	-0.10	0.004	-4.87	-0.90
	Household income (INR 15001 to 40000)	3.46	1.07	0.11	0.001	1.35	5.56
	Household income (INR 40001 and above)	7.28	2.61	0.10	0.006	2.15	12.41
	Education PUC/Diploma	-3.38	1.54	-0.08	0.029	-6.41	-0.35
	Constant	64.49	1.63		<0.001	61.28	67.69
Social relationships Domain	Education Primary School 1-4	7.85	2.02	0.16	<0.001	3.90	11.81
	Household income (INR 15001 to 40000)	6.11	1.71	0.13	<0.001	2.75	9.47
	Education PUC/Diploma	-11.06	2.58	-0.16	<0.001	-16.12	-5.99
	Education Secondary School 5-10	-6.81	1.98	-0.14	<0.001	-10.70	-2.92
	Years of experience (4-7)	4.29	1.56	0.10	0.006	1.23	7.35
	Constant	47.21	1.77		<0.001	43.73	50.68
Environment Domain	Education Primary School 1-4	5.69	1.35	0.15	<0.001	3.04	8.34
	Household income (INR 15001 to 40000)	5.42	1.31	0.15	<0.001	2.85	8.00
	Household income (INR 40001 and above)	12.49	3.21	0.15	<0.001	6.19	18.79
	Income_INR 5001 to 10000	3.00	1.21	0.09	0.013	0.62	5.37
	Age (25-44 years)	-4.12	1.72	-0.09	0.017	-7.49	-0.75

the pandemic and other influencing factors. For instance, a study¹⁹ reported a higher Quality of Life score among CHWs in pre-pandemic conditions, which contrasts with the relatively lower scores found in recent studies during the pandemic.²⁰ Potential reasons for these differences, such as increased work-related stress and changes in health-care delivery during the pandemic. Additionally, in accordance to the findings²¹ with those who examined the impact of the pandemic on CHWs in a similar setting, providing insights into the resilience and adaptability of these workers under crisis conditions. These comparisons not only contextualize the findings within broader epidemiological trends but also underscore the critical need for ongoing support and resources for CHWs, particularly in crisis settings.

This study assessed QoL and influencing factors among Karnataka's CHWs. Overall QoL and health satisfaction were rated neutral to good (mean score 3.40/5). Domain-wise; social relationships scored highest (66.5), followed by psychological health (57.5) and physical health (52.6). The environment domain scored lowest (48.6). QoL scores didn't significantly differ among CHW's.

Contrary to expectations, CHWs aged 25 to 44 displayed lower mean domain scores than others, unlike a study suggesting improved QoL with age.²² This discrepancy could stem from distinct work conditions, workload, and geography. Multivariate regression analysis confirmed lower psychological health domain scores for CHWs aged 25 to 44.

Our study echoed results from West Bengal,⁹ demonstrating that CHWs with secondary school or diploma education scored lower across domains compared to primary school completers. This unexpected correlation, where higher education aligns with lower QoL scores, contrasts with broader studies suggesting improved QoL with higher educational levels. The reason could be higher-educated CHWs might have unmet career expectations and experience a job role mismatch, leading to dissatisfaction. Additionally, the economic burden associated with higher education, combined with the modest salaries of CHWs, may not fulfil the socioeconomic advancements these individuals anticipate, thereby impacting their Quality of Life. Higher education may also shift social expectations and self-perception, influencing how individuals evaluate their life quality in roles that may not fully utilize their skills or

offer desired advancements.²²⁻²⁴

Regarding work experience a study²⁵ indicated that high experience improves CHW's performance, which aligns with the present study findings. CHWs with four to seven years of experience outperformed their counterparts. Nonetheless, another study²² reported lower QoL scores among CHWs with 10 or more years of experience.

Family size was found to impact the QoL of CHWs. Respondents with larger family size (five to eight members) were associated with lower scores in the psychological health domain. This aligns with the findings of a study²² reporting lower QoL and physical health functioning among CHWs with families of four or more. Worldwide research underscores economic status's impact on CHWs' QoL^{23,26,27}. Multivariate regression confirmed higher incomes linked to better QoL across all domains.²⁸

A Wardha study revealed that increased workload resulted from higher population coverage and vacant positions.⁸ Inadequate transportation caused physical discomfort and reduced capacity among CHWs. Correspondingly, improper transport hindered tasks, and affected physical health⁸. The present study concurs, showing the 'physical health domain' scored second lowest. Mean physical health domain score was 52.6 ± 13 , minimum 10.7. These finding emphasize the fact that lack of resources and transportation challenges' significantly impacts CHWs' physical health and well-being. Addressing these issues is vital to ease pain, enhance capacity, and improve overall health.

In this study, Community Health Workers (CHWs) reported the lowest QoL scores in the environment domain, averaging 48.6 ± 16.6 , reflecting substantial challenges in safety, physical health, personal time, satisfaction with health, living conditions, and transport facilities. Multivariate regression models revealed that higher personal and family incomes correlate with improved QoL. These findings align with other regional studies, suggesting that enhancements in income and basic amenities positively influence CHWs' QoL. A study conducted in Kolar highlighted that enhanced clarity in roles and responsibilities of ASHAs could improve their mental health.^{14,28} These studies emphasized the significance of providing a safe working environment, offering better salaries, and ensuring freedom from discrimination to enhance the mental health and well-being of ASHAs. Additionally, a study conducted

in Davangere shed light on the challenges faced by ASHAs in collecting sputum, which subsequently affected their work satisfaction.¹⁵

In conclusion, the overall QoL and health satisfaction among Community Health Workers (CHWs) in Karnataka were deemed neutral to good. However, lower scores in specific domains like the environment and physical health highlight the need for targeted interventions and policy measures to improve CHWs' working conditions and overall well-being.

5. Conclusion

The findings of this study indicate that CHO's have a moderate QoL, neither good nor bad. To enhance QoL, environment and physical health factors that affect CHWs should be enhanced. The results suggest that several demographic factors play a role in determining QoL. Higher income, primary education, increased work experience, and increased earning members in the household are associated with higher QoL scores. On the other hand, secondary education or above, larger family size and certain demographic factors contribute to lower overall QoL scores among CHWs. It is critical to prioritize positively QoL factors, such as job satisfaction, manageable population coverage, increased income, enhanced physical safety, a supportive working environment, and better transportation facilities. Addressing these aspects holds potential for substantial QoL improvement among CHWs.

Authors contribution

Usha Manjunath: Conceptualization, Supervision. Rajendra D: Data curation, Software, Visualization, Writing- Original draft preparation. Sarala R: Conceptualization, Investigation, Data curation, Reviewing and Editing.

Funding

The authors received a total of Rs: 22,39,557/- to complete the project by IHSC (Indian health system collaborative)/ACCESS health International. Used a total of 22,39,557/- for the study.

Data availability

The data files are available on request from the author.

Ethical approval

Ethical approval was obtained from the Directorate of Health and Family Welfare, Government of Karnataka (SNO (ASHA)/50/2020–21). The participants were informed of the study purpose, objectives, associated risks, and benefits. The sample respondents did not receive any compensation for participating in this study. Written informed consent was obtained before participants answered the questionnaire.

Consent of participation

The participants under the study were informed about the purpose and study objectives, associated risk, and benefits. Written consent was obtained from the participants.

Consent of publication

Participants were agreed for their data to be used for the publication as a part informed consent provided before starting the interview.

Competing interests

The authors declare that they have no Competing interests.

Declaration of competing interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests:

Sarala R reports financial support, administrative support, and travel were funded by a grant from the Bill and Melinda Gates Foundation to ACCESS Health International, Inc. (Grant number: INV-007165).

The sponsor provided funding for the logistics and resources needed for the study but had no role in the design, data collection, analysis, interpretation of the data, or the writing of the manuscript. All decisions related to these aspects of the study were made autonomously by the research team.

Acknowledgements

The author would like to thank all the participants who volunteered to participate in the study.

References

- Kasthuri A. Challenges to healthcare in India-The five A's. *Indian J Community Med.* 2018;43(3):141–143. https://doi.org/10.4103/ijcm.IJCM_194_18.
- National Health Mission. About Accredited Social Health Activist (ASHA). Available at: <https://nhm.gov.in/index1.php?lang=1&level=1&sublinkid=150&lid=226>.
- Wahid SS, Munar W, Das S, Gupta M, Darmstadt GL. 'Our village is dependent on us. That's why we can't leave our work'. Characterizing mechanisms of motivation to perform among Accredited Social Health Activists (ASHA) in Bihar. *Health Pol Plann.* 2020;35(1):58–66. <https://doi.org/10.1093/heapol/czz131>.
- WHO Guideline on Health Policy and System Support to Optimize Community Health Worker Programmes. Geneva: World Health Organization; 2018. <https://pubmed.ncbi.nlm.nih.gov/30431747/>.
- Cocker F, Joss N. Compassion fatigue among healthcare, emergency and community service workers: a systematic review. *Int J Environ Res Publ Health.* 2016;13(6):618. <https://doi.org/10.3390/ijerph13060618>.
- Lopes DM, Beck CL, Prestes FC, Weiller TH, Colomé JS, Silva GM. Community health agents and their experiences of pleasure and distress at work: a qualitative study. *Rev Esc Enferm USP.* 2012;46:633–640. <https://doi.org/10.1590/S0080-62342012000300015>.
- Shet S, Sumit K, Phadnis S. A study on assessment of ASHA's work profile in the context of Udupi Taluk, Karnataka, India. *Clinical Epidemiology and Global Health.* 2018;6(3):143–147. <https://doi.org/10.1016/j.cegh.2017.08.004>.
- Guha I, Raut AV, Maliye CH, Mehendale AM, Garg BS. Qualitative Assessment of Accredited Social Health Activists (ASHA) Regarding their roles and responsibilities and factors influencing their performance in selected villages of Wardha. *International Journal of Advanced Medical and Health Research.* 2018;5(1):21–26. https://doi.org/10.4103/IJAMR.IJAMR_55_17.
- Mondal N, Murhekar MV. Factors associated with low performance of accredited social health activist (ASHA) regarding maternal care in Howrah district, West Bengal, 2015–16: an unmatched case control study. *Clinical Epidemiology and Global Health.* 2018;6(1):21–28. <https://doi.org/10.1016/j.cegh.2017.05.003>.
- Birur NP, Gurushanth K, Patrick S, et al. Role of community health worker in a mobile health program for early detection of oral cancer. *Indian J Cancer.* 2019;56(2):107–113. https://doi.org/10.4103/ijc.IJC_232_18.
- Deshpande S, Barsha Gadapani P, Manaparath RM. Analyzing the challenges and demotivating factors faced by accredited social health activist workers in tribal India in implementing their roles. *Int J Med Sci Publ Health.* 2019;9(1):1. <https://doi.org/10.5455/ijmsph.2020.1131025112019>.
- Gopalan SS, Mohanty S, Das A. Assessing community health workers' performance motivation: a mixed-methods approach on India's Accredited Social Health Activists (ASHA) programme. *BMJ Open.* 2012;2(5), e001557. <https://doi.org/10.1136/bmjopen-2012-001557>.
- Meena S, Rathore M, Kumawat P, Singh A. Challenges faced by ashas during their field works: a cross sectional observational study in rural area of Jaipur, Rajasthan. <https://www.researchgate.net/publication/344560045>.
- Shanthosh J, Durbach A, Joshi R. Charting the rights of community health workers in India: the next frontier of universal health coverage. *Health and Human Rights.* 2021;23(2):225. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8694295/>.
- Patil VV, Rakesh J, Kumar A. Challenges in sputum collection among tuberculosis suspects and drug distribution to tuberculosis patients among health-care providers (ANM/ASHA) in rural and urban field practice area of SSIMS and RC, Davangere—A qualitative study. *Annals of Community Health.* 2021;9(2):307–310. <https://mail.annalsofcommunityhealth.in/ojs/index.php/AoCH/article/view/422/0>.
- Sarin E, Lunsford SS. How female community health workers navigate work challenges and why there are still gaps in their performance: a look at female community health workers in maternal and child health in two Indian districts through a reciprocal determinism framework. *Hum Resour Health.* 2017;15. <https://doi.org/10.1186/s12960-017-0222-3>, 1–0.
- Population census. <https://www.census2011.co.in/>; 2011.

18. Group TW. The World Health Organization quality of life assessment (WHOQOL): development and general psychometric properties. *Social science & medicine*. 1998; 46(12):1569–1585. [https://doi.org/10.1016/S0277-9536\(98\)00009-4](https://doi.org/10.1016/S0277-9536(98)00009-4).
19. Dhillon P, Unisa S, Gupta A, Saraswat A, Km S, Pedgaonkar S. Utilisation of ANC services before and after the COVID-19 pandemic in selected resource-poor blocks of India: role of community health workers in Swabhimaan programme area. *BMC Health Serv Res*. 2023;23(1):864. <https://doi.org/10.1186/s12913-023-09781-1>.
20. Kandula UR, Wake AD. Assessment of quality of life among health professionals during COVID-19. *J Multidiscip Healthc*. 2021;3571–3585. <https://doi.org/10.2147/JMDH.S344055>.
21. Vanden Bossche D, Willems S, Decat P. Understanding trustful relationships between community health workers and vulnerable citizens during the COVID-19 pandemic: a realist evaluation. *Int J Environ Res Publ Health*. 2022;19(5):2496. <https://doi.org/10.3390/ijerph19052496>.
22. Santos FA, de Paiva Sousa L, de Oliveira Serra MA, Rocha FA. Factors that influence the quality of life of community health workers/Fatores que influenciam na qualidade de vida dos agentes comunitários de saúde. *Acta Paul Enferm*. 2016;29(2): 191. <https://doi.org/10.1590/1982-0194201600027>.
23. Asante JO, Li MJ, Liao J, Huang YX, Hao YT. The relationship between psychosocial risk factors, burnout and quality of life among primary healthcare workers in rural Guangdong province: a cross-sectional study. *BMC Health Serv Res*. 2019;19. <https://doi.org/10.1186/s12913-019-4278-8>, 1-0.
24. Thadathil SE, Jose R, Varghese S. Assessment of domain wise quality of life among elderly population using WHO-BREF scale and its determinants in a rural setting of Kerala. *Int J Curr Med Appl Sci*. 2015;7(1):43–46. <https://www.researchgate.net/publication/279767353>.
25. Kawakatsu Y, Sugishita T, Tsutsui J, et al. Individual and contextual factors associated with community health workers' performance in Nyanza Province, Kenya: a multilevel analysis. *BMC Health Serv Res*. 2015;15. <https://doi.org/10.1186/s12913-015-1117-4>, 1-0.
26. Saprii L, Richards E, Kokho P, Theobald S. Community health workers in rural India: analysing the opportunities and challenges Accredited Social Health Activists (ASHAs) face in realising their multiple roles. *Hum Resour Health*. 2015;13:1–3. <https://doi.org/10.1186/s12960-015-0094-3>.
27. Keshavarz Z, Gorji M, Houshyar Z, Tamajani ZT, Martin J. The professional quality of life among health-care providers and its related factors. *Asian Journal of Social Health and Behavior*. 2019;2(1):32–38. https://doi.org/10.4103/SHB.SHB_43_18.
28. Pulagam P, Satyanarayana PT. Stress, anxiety, work-related burnout among primary health care worker: a community based cross sectional study in Kolar. *J Fam Med Prim Care*. 2021;10(5):1845–1851. https://doi.org/10.4103/jfmpc.jfmpc_2059_20.