

Morbidity Patterns and Job Satisfaction among ASHAs: A Community-based Cross-sectional Study

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ABSTRACT

Introduction: In India Accredited Social Health Activists (ASHAs) play a vital role in connecting the public health system and the community. They are crucial for providing maternal and child health services, raising health awareness and easing access to healthcare at the local level. Despite their critical responsibilities, ASHAs often work under challenging conditions, including limited incentives, demanding workload and constrained resources, which influence both their health status and job satisfaction. Understanding morbidity patterns and satisfaction levels among them is therefore important for improving their well-being and strengthening community health services.

Aim: To assess morbidity patterns and domain-wise job satisfaction among ASHAs.

Materials and Methods: A community-based cross-sectional study was conducted among 150 ASHAs in Dakshina Kannada district, Karnataka, India, from October 2025 to November 2025, among 150 ASHAs, from October 2025 to November 2025. Data on sociodemographic characteristics, chronic health conditions (hypertension, diabetes and anaemia) and satisfaction across nine job domains (communication, nature of work, co-workers, pay, promotion, supervision, fringe benefits,

contingent rewards and operating conditions) were collected using the Job Satisfaction Scale. Descriptive statistics were used to summarise the findings.

Results: Among the participants, 21 (14%) were hypertensive, 13 (9%) had diabetes and 15 (10%) were anaemic. Most ASHAs (76.7%) reported a moderate satisfaction towards the work, while 23.3% expressed satisfaction. Domain-wise analysis showed moderate satisfaction with pay (62.52%) and promotion opportunities (55.7%), high satisfaction with supervision (78.65%) and moderate satisfaction with fringe benefits (55.5%) and contingent rewards (65.68%). The lowest satisfaction was observed in operating conditions (63%). These findings suggest that although ASHAs generally perceive supervisory support positively, remuneration and work environment remain important challenges that affect their performance.

Conclusion: Job satisfaction among ASHAs is influenced by both personal health and work-related factors. Addressing chronic health conditions, improving incentives, enhancing supervisory support and strengthening operating conditions may increase satisfaction, enhance motivation and sustain the effectiveness of ASHAs in delivering community health services.

Keywords: Accredited social health activists, Community health workers, Health status, Occupational health

INTRODUCTION

The ASHAs form an important component of India's primary healthcare delivery system and serve as a crucial interface between communities and the public health sector. Introduced under the National Health Mission, ASHAs facilitate access to maternal and child health services, immunisation, disease prevention programs and health promotion activities, particularly in rural and underserved populations. They are often the first and sometimes the only point of contact for health advice in villages. Through regular household visits and community engagement, they contribute significantly to improving health awareness and utilisation of healthcare services at the grassroots level [1,2].

Despite their vital role in strengthening community health systems, ASHAs are largely considered voluntary workers and receive a modest honorarium supplemented by performance-based incentives rather than a fixed salary. This arrangement often leads to financial uncertainty and limited professional recognition. Several studies have reported that ASHAs face multiple challenges such as heavy workload, delayed payments, inadequate incentives and limited opportunities for career advancement [3,4]. These factors can influence their motivation, engagement with work and overall job satisfaction.

Job satisfaction among healthcare workers is a key determinant of workforce motivation, efficiency and retention. Higher levels of job satisfaction have been associated with improved job performance,

better interaction with communities and enhanced quality of healthcare services [5,6]. In the context of primary healthcare delivery, ASHAs represent the frontline workforce responsible for implementing many national health programs at the community level. Therefore, their satisfaction across various domains of work, including remuneration, workload, supervision and recognition, plays an important role in determining the effectiveness and sustainability of these programs [7].

Apart from occupational factors, the health status of ASHAs themselves may also influence their work performance and job satisfaction. The responsibilities of ASHAs involve frequent field visits, household surveys, community mobilisation and participation in public health campaigns, which can be physically demanding. Evidence suggests that community health workers may experience various health problems such as anaemia, musculoskeletal disorders, hypertension and other Non Communicable Diseases (NCDs) due to demanding work conditions and prolonged field activities [8].

Notably, during the Coronavirus Disease-2019 (COVID-19) pandemic, ASHAs played a critical role in community surveillance, contact tracing, health education and ensuring continuity of essential health services. This significantly increased their workload and exposure to health risks, which may have further affected their physical and psychological well-being [9,10].

Although several studies have explored the challenges and job satisfaction of ASHAs [2,11], limited research has examined their

morbidity profile in relation to job satisfaction across different domains [8]. Considering that the chronic health issues like hypertension, diabetes, or anaemia can influence both well-being and performance, understanding the interplay is important. By examining the health status of ASHAs alongside their work satisfaction is important to identify factors that may influence their well-being, productivity and effectiveness as frontline health workers. Therefore, the present study was undertaken to assess the morbidity patterns and job satisfaction across different domains among ASHA workers from a community-based perspective.

The present study aimed to assess the morbidity pattern among ASHAs, to evaluate domain-wise job satisfaction among ASHAs and to determine the association of sociodemographic factors with job satisfaction among ASHAs.

MATERIALS AND METHODS

This community-based cross-sectional study was conducted in Dakshina Kannada (DK) district, Karnataka, India. The study was initiated in 2021 after obtaining approval from District Health officer and Institutional Ethics Committee (no.4/Nurs/2021 dated 17-8-2021), including planning and preparatory phases. The study was conducted during October 2025 to November 2025 that constituted the final phase of the study

Inclusion and Exclusion criteria: The Primary Health Wellness Centres (PHWCs) were randomly chosen from the list of PHWCs in Dakshina Kannada (DK) district obtained from District Health Officer (DHO). All the ASHAs of selected PHWCs were selected. ASHAs attending monthly meetings were enrolled while those on leave and not available on the day of data collection were excluded

Sample size: Considering the total number of ASHAs in the study area, convenience sampling was adopted and 150 available and willing participants were included in the study. The aim was to get initial insights into health status variables and trends among ASHAs in the study area.

Study Procedure

Data collection tool and techniques: The study participants were asked to fill in a predesigned self-administered Questionnaire including the following parts.

Section 1: Demographic proforma

It consisted of 13 items such as age, religion, education, marital status, family type, income, work experience, population covered, distance of PHC from residence, number of trainings attended per year, place of residence of ASHA, self-reported co-morbidities and average time spent in the area per day.

Section 2: Job Satisfaction Survey (JSS) tool

For the present research study, the Job Satisfaction Survey (JSS) created by Paul Spector in 1985 was utilised [12]. The JSS consists of 36 items and is a nine-domain scale that is used to assess an employee's attitude concerning the various aspects of their job. It includes communication, nature of work, co-workers, operating conditions, contingent rewards, fringe benefits, supervision, promotion and pay. Four items are used to assess each of the identified domains and a total score is calculated. The instrument features items written in both directions on a 6-point Likert scale that offers 1-6 choices ranging from strongly disagree to strongly agree. Total score ranged from 36-216, with higher score indicating greater job satisfaction categorised into dissatisfied (36-108) moderate (108-144) and satisfied (144-216). The overall reliability for JSS scale was 0.91.

The information on co-morbidities was obtained through self-reported history of prior diagnosis by a registered medical practitioner during the interview. With prior consent the respondents were administered the questionnaire in their respective PHWCs according to their

convenience on a pre-planned date. The respondents were given assurance of confidentiality of the data obtained from them. All the ethical principles were followed.

STATISTICAL ANALYSIS

Data were analysed using Statistical Package for Social Sciences (SPSS) 21.0 software for descriptive and inferential statistics and interpreted based on the objective of the study. Tables and diagrams were made to present data suitably using descriptive statistics and Chi-square test was applied to detect any significance of the sociodemographic factors with the satisfaction.

RESULTS

The analysis of 150 ASHAs showed that 87 (58%) of them belonged to the 41-50 years age group. Most participants were Hindus accounting for 143 (95%), followed by Muslim 4 (3%) and Christians only 3 (2%). With respect to educational status 17% completed PUC and 46% had completed Secondary School Leaving Certificate (SSLC). Out of the 150 respondents 110 (73%) were married and living with their family in the same area of service and 11% were widows. Majority (60%) had a monthly income of 20000-30000 and 144 (96%) served a population of 1000-2000. Most of the participants (88%) were from rural area and travelled within 25 km from their residence. Nearly 128 (85%) were trained in all modules after they began functioning as ASHAs and the 15% were new recruits not trained in all modules. The duration of service was more than nine years for 94 ASHAs (63%) and almost 102 (68%) spent 3-6 hours in the area per day. Nearly, 14% were hypertensive, 9% were diabetic and 10% were anaemic indicating a notable burden of NCD and nutritional health [Table/Fig-1].

Variables	n (%)
Age (in years)	
≤30	1 (0.7)
31-40	27 (18.0)
41-50	87 (58.0)
51-60	35 (23.3)
Religion	
Hindu	143 (95.3)
Muslim	4 (3.0)
Christian	3 (2.0)
Educational status	
High school (8 th)	55 (36.7)
SSLC	69 (46.0)
PUC	26 (17.3)
Marital status	
Single	24 (16.0)
Married	110 (73.3)
Widow	16 (10.7)
Type of family	
Nuclear	87 (58.0)
Joint	62 (41.3)
Extended	1 (0.7)
Monthly family income (INR)	
<20000	56 (37.3)
20000-30000	90 (60.0)
>30000	4 (2.7)
Work experience (in years)	
1-3	9 (6.0)
>3-6	24 (16.0)
>6-9	23 (15.30)

>9	94 (62.70)
Population covered	
1000-2000	144 (96.0)
2000-3000	6 (4.0)
Distance of PHC from residence (in kilometers)	
>25	66 (44.0)
<25	84 (56.0)
Training attained per year	
<5	22 (14.7)
>5	128 (85.3)
Place of residence	
Rural	132 (88.0)
Urban	18 (12.0)
Self-reported co-morbidities	
Diabetes	13 (8.67)
Hypertension	21 (14.0)
Anaemia	15 (10.0)
Asthma	9 (6.0)
Others	0
Diabetes+ Hypertension	1 (0.67)
Hypertension+ Anaemia	2 (1.33)
Hypertension + Asthma	1 (0.67)
Not applicable	88 (58.67)
Average time spent/day (hours)	
<3	18 (12)
3-6	102 (68)
>6	30 (20)

[Table/Fig-1]: Sociodemographic characteristics of the study participants (N=150).

A total of 115 (76.7%) ASHAs were moderately satisfied about their jobs, while only 35 (23.3%) reported satisfaction as shown in [Table/Fig-2]. ASHAs having chronic health conditions like hypertension (14%), diabetes (9%) and anaemia (10%) were more likely to report moderate satisfaction. The association between morbidity pattern and job satisfaction among ASHAs was assessed using the Chi-square test of independence. The results showed that there was no statistically significant association between morbidity status (hypertension, diabetes, anaemia and no morbidity) and job satisfaction ($\chi^2=0.114$, $df=3$, $p=0.99$).

Health condition	Number of ASHAs	Moderate satisfaction n (%)	Satisfaction n (%)
Hypertension	21	16 (76.2)	5 (23.8)
Diabetes	13	10 (76.9)	3 (23.1)
Anaemia	15	11 (73.3)	4 (26.7)
No Morbidity/others	102	79 (77.2)	23 (22.8)
Total	150	115 (76.7)	35 (23.3)

[Table/Fig-2]: Relationship between job satisfaction and health status among ASHAs (N=150). $\chi^2=0.114$, $df=3$, $p=0.99$, not statistically significant (Note: No participants were categorised as dissatisfied according to the scoring criteria)

The study assessed job satisfaction among 150 ASHA across nine domains of work. The results indicate varied levels of satisfaction across different domains, highlighting both strengths and areas for improvement in their work environment. Supervision scored highest among all domains, with a mean of 18.09, suggesting that most ASHAs feel well-supported and guided by their supervisors. The relatively low standard deviation (3.18) reflects a generally consistent positive experience among the ASHAs. Operating conditions were scored the lowest with a mean of 11.97, suggesting dissatisfaction with the work environment and resources. Poor operating conditions could include workload, infrastructure, or logistical challenges,

which may negatively impact overall job satisfaction. Satisfaction with co-workers was high (mean 17.83) indicating strong peer support and positive interpersonal relationships, which can buffer workplace stress and enhance overall morale. The nature of work scored the highest overall (mean 18.26), reflecting that ASHAs find their work meaningful and rewarding. This is encouraging, as intrinsic satisfaction from the work itself can sustain motivation even when other factors are suboptimal [Table/Fig-3].

Job satisfaction domain	Minimum	Maximum	Mean±SD	Mean % satisfaction
Pay	7	21	13.13±3.35	62.52%
Promotion	6	24	13.37±3.17	55.70%
Supervision	10	23	18.09±3.18	78.65%
Fringe benefits	5	24	13.32±4.33	55.50%
Contingent rewards	8	22	14.45±3.36	65.68%
Operating conditions	6	19	11.97±2.57	63.00%
Co-workers	11	24	17.83±3.04	74.31%
Nature of work	7	24	18.26±2.87	76.08%
Communication	8	23	15.09±3.77	65.60%

[Table/Fig-3]: Job satisfaction scores among ASHAs (N=150). Note: % Mean = (Mean/Max Score) × 100.

A statistically significant association was found between daily work time and job satisfaction ($p=0.02$). No significant association was found between other demographic variables and job satisfaction [Table/Fig-4].

Demographic variables	Chi-square (χ^2)	df	p-value
Age (years)	1.65	3	0.65
Religion	4.04	2	0.13
Educational status	1.96	2	0.37
Marital status	2.06	2	0.36
Type of family	2.94	2	0.23
Monthly family income	0.64	2	0.42
Work experience	1.19	2	0.76
Population covered	0.64	1	0.42
Distance of PHC from residence	0.64	1	0.42
Number of trainings attended per year	0.00	1	0.95
Place of residence of ASHA	2.09	1	0.15
Self-reported co-morbidities	4.28	3	0.75
Average time spent in the area per day	10.20	2	0.02*

[Table/Fig-4]: Association of job satisfaction with demographic variables among ASHAs (N=150). * $p<0.05$: significant

DISCUSSION

The present study assessed morbidity and job satisfaction among ASHA workers in Karnataka and found that a majority of ASHAs experienced moderate job satisfaction, with only a smaller proportion reporting high satisfaction. Additionally, a considerable burden of NCDs such as hypertension, diabetes and anaemia was observed among the participants. These findings highlight the dual challenge of occupational stress and health issues among frontline health workers.

The prevalence of hypertension (14%), diabetes (8%) and anaemia (10%) among ASHAs in the present study is consistent with findings from other studies which reported a rising burden of NCDs among community health workers due to age, stress and limited self-care. A study by Sengar GS et al., (2023) in Jabalpur reported similar rates of hypertension among ASHA workers, emphasising occupational strain and lack of regular health monitoring as contributing factors [13]. Globally, community health workers have also been shown to experience increasing NCD risks, particularly in low- and middle

income countries, where workplace stress and limited access to preventive care are common [14]. These health conditions can significantly affect work performance. In the present study, ASHAs with chronic conditions were more likely to report only moderate satisfaction. This aligns with findings from a study in Ethiopia (2021), which demonstrated that health problems among community health workers were associated with reduced productivity and job satisfaction [15]. Poor health may lead to fatigue, reduced mobility and psychological stress, thereby limiting effective field engagement.

With respect to job satisfaction, the majority (76.7%) of ASHAs reported moderate satisfaction, while only 23.3% were fully satisfied. Similar findings have been reported in recent Indian studies [4,16,17]. A cross-sectional study conducted in Gujarat (2022) found that most ASHAs were moderately satisfied, citing inadequate incentives and workload as major concerns [18]. Likewise, a systematic review (2019) highlighted that although ASHAs derive intrinsic satisfaction from community service, extrinsic factors such as low pay and poor working conditions limit overall satisfaction [1].

Domain-wise analysis in the present study showed that nature of work and supervision scored highest, while pay and operating conditions scored lowest. This pattern is consistent with multiple studies conducted in India and abroad. For instance, a study in Maharashtra (2020) reported high satisfaction with community respect and supervisor support, but dissatisfaction with incentives and infrastructure [19]. Similarly, a global review (2022) noted that community health workers often remain motivated due to the meaningful nature of their work, despite systemic challenges such as inadequate compensation and logistics [6].

Operating conditions emerged as the most dissatisfactory domain in the present study. This may be due to workload, lack of transportation, or insufficient medical supplies. Comparable findings were reported in a study from Bangladesh (2022), where poor logistics and resource constraints negatively impacted job satisfaction among community health workers [20].

The study also identified a significant association between daily work duration and job satisfaction ($p=0.02$). ASHAs working 3-6 hours per day reported higher satisfaction compared to those working fewer or longer hours. This suggests that a balanced workload contributes to optimal satisfaction. Similar findings were observed in a study conducted in Karnataka (2022), where excessive workload and irregular work hours were linked to burnout and lower job satisfaction among ASHAs [21].

The findings of the present study have important programmatic implications. Regular health screening and wellness programs for ASHAs are essential to address the burden of NCDs. In addition, improving financial incentives, ensuring adequate supplies and optimising workload distribution may enhance job satisfaction and performance. Strengthening supervisory support, which was already rated positively, can further improve motivation and retention.

Limitation(s)

Being cross-sectional, it cannot establish causal relationships between morbidity, job satisfaction and other factors. The sample was limited, which may affect the generalisability of the findings to other regions or urban-rural contexts. Additionally, longitudinal trends in morbidity were not explored. The present study was an attempt to gain preliminary insights to bring to focus the occupation-related effects on health status of the ASHAs that affect performance outcome.

CONCLUSION(S)

The study found that most ASHAs had moderate satisfaction. While they continue to play a vital role in community health services, several workers were found to have health problems such as diabetes,

hypertension and anaemia. These findings highlight the need for supportive measures to improve both occupational satisfaction and the health status of ASHA workers. Regular health screening, timely medical care, stress management and strengthening workplace support systems may help enhance their well-being and work performance.

Acknowledgement

The researcher would like to thank all the ASHAs who participated in the current study and also thank the authorities for their support and guidance throughout the project.

REFERENCES

- [1] Scott K, George AS, Ved RR. Taking stock of 10years of published research on the ASHA programme: Examining India's national community health worker programme from a health systems perspective. *Health Res Policy Syst.* 2019;17(1):29. Available from: <https://doi.org/10.1186/s12961-019-0427-0>.
- [2] Rajbangshi PR, Nambiar D, Srivastava A. Community health workers: Challenges and vulnerabilities of Accredited Social Health Activists working in conflict-affected settings in the state of Assam, India. *BMC Health Serv Res.* 2021;21(1):829-01-10. Available from: <https://doi.org/10.1186/s12913-021-06780-y>.
- [3] Kumar R, Malhotra D. Unrecognised pillars of public health: The struggles of Asha Workers in India. *Vasc Endovasc Rev.* 2025;8(15s):116-26. Available at SSRN: <http://dx.doi.org/10.2139/ssrn.5859822>.
- [4] Sarkar P, Lahiri SK. Job satisfaction of the accredited social health activists in Amdang community development block of North 24 Parganas district, West Bengal. *Int J Community Med Public Health.* 2021;8(9):4541-44. Available from: <https://www.ijcmph.com/index.php/ijcmph/article/view/8482>.
- [5] Mohamed RA, Salih O. Health workers' job satisfaction and associated factors at public primary healthcare centers in Hargeisa, Somaliland: A cross-sectional study. *Adv Public Health.* 2024 (1):1-1. Available from: <https://doi.org/10.1155/adph/5532882>.
- [6] Oladeji O, Beer NL, Baitwabusa AE, Cho KA. Strengthening community health worker program in Belize. *Int J Community Med Public Health.* 2023;10(11):4419-25. Available from: <https://doi.org/10.18203/2394-6040.ijcmph20233488>.
- [7] Chawla S, Kumar C, Bose M, Shrivastav SM. Performance and challenges of Accredited Social Health Activists (ASHAs) in delivering key Maternal and Newborn Health (MNH) services in India: A systematic review and meta-analyses. *SSM - Health Syst.* 2025;5:01-18. Available from: <https://doi.org/10.1016/j.ssmhs.2025.100134>.
- [8] Chauhan G, Pankaj N, Dhakate B, Gadhavi K, Pandit N. Decoding morbidity patterns in ASHA workers of Vadodara, Gujarat - A cross-sectional study. *J Fam Med Prim Care.* 2024;13(12):5484-90. Doi: 10.4103/jfmpc.jfmpc_119_24.
- [9] Niyati S, Mandela SN. Impact of the pandemic on Accredited Social Health Activists (ASHA) in India. *Rev Agrar Stud.* 2020;10(1). Doi: <https://doi.org/10.25003/RAS.10.01.0014>.
- [10] Menon S, Bisht R, Nair B. ASHA Workers during COVID-19 in India: At the Intersection of Gender and Work. *J Health Manag.* 2025;27(1):78-85. Doi: 10.1177/09720634241307290.
- [11] Mavelli SJ, Srivastava SC. Social acceptance and job satisfaction of ASHA workers in the Garo Hills Division of Meghalaya: A cross-sectional study. *Int J Community Med Public Health.* 2019;6(9):3705. Doi: <https://doi.org/10.18203/2394-6040.ijcmph20193642>.
- [12] Spector PE. Measurement of human service staff satisfaction: Development of the Job Satisfaction Survey. *J Community Psychol.* 1985;13(6):693-713. Doi: 10.1007/BF00929796.
- [13] Sengar GS, Singh K, Dey A, Shrivastava S. Prevalence of hypertension and diabetes in health workers of Jabalpur and Dindori: A brief study. *Int J Res Med Sci.* 2023;11(6):2053-57. Available from: <https://doi.org/10.18203/2320-6012.ijrms20231616>.
- [14] Mwale M, Mulenga M, Milandu P, Bwalya T, Mvula R, Mwansa Katandula D, et al. Prevalence and associated factors of hypertension among health workers: A systematic review. *Int Res Med Health Sci.* 2024;7(1):01-15. Available from: <https://doi.org/10.36437/irmhs.2024.7.1.A>.
- [15] Geta A, Bikis GA, Dellie E, Yazachew L. Job satisfaction and associated factors among health professionals working at public and private hospitals in Bahir Dar City, Northwest Ethiopia: A comparative cross-sectional study. *Biomed Res Int.* 2021;2021:6632585. doi:10.1155/2021/6632585.
- [16] Bisane P, Inkane S, Choudhari GS, Mendhe GH. An evaluation of job satisfaction levels among ASHA workers at the Raipur PHC, Nagpur. *F1000Res.* 2024;13:428. Doi: 10.12688/f1000research.146186.1.
- [17] Salim A. The interplay of work perception, work performance, and job satisfaction of ASHA workers in Kerala. *Test Psychome Methodol Appl Psychol.* 2025;32(S9):2236-44. Available from: <https://tpmap.org/submission/index.php/tpm/article/view/3684>.
- [18] Adithya S, Jadhav B. Assess the work satisfaction of Accredited Social Health Activist (ASHA) workers and problem faced by them in selected PHC of Gujarata mixed method study. *Int J Biol Pharm Allied Sci.* 2023;12(Special issue). Available from: <https://doi.org/10.31032/IJBPAS/2023/12.12.1031>.
- [19] Bidari R, Ray S. Job satisfaction of Accredited Social Health Activist (ASHA). *Eur J Mol Clin Med.* 2020;7(11):20-26. Available from: https://www.researchgate.net/publication/348153053_Job_satisfaction_of_Accredited_Social_Health_Activist_ASHA.

[20] Hamid SA, Azim MR, Rahman MM, Islam MS. Working conditions of the clinical health workforce in the public health facilities in Bangladesh. PLoS One. 2023;18(11):e0294224. Doi: 10.1371/journal.pone.0294224.

[21] Pushpalatha G, Shwetha KT. Burnout among ASHA workers: Challenges in rural healthcare delivery. World J Adv Res Rev. 2025;26(3):2017-21. Available from: <https://doi.org/10.30574/wjarr.2025.26.3.2295>.

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- Plagiarism X-checker: Feb 17, 2026
- Manual Googling: May 16, 2026
- iThenticate Software: May 19, 2026 (6%)

ETYMOLOGY: Author Origin

EMENDATIONS: 7

AUTHOR DECLARATION:

- Financial or Other Competing Interests: None
- Was Ethics Committee Approval obtained for this study? Yes
- Was informed consent obtained from the subjects involved in the study? Yes
- For any images presented appropriate consent has been obtained from the subjects. NA

Date of Submission: **Feb 10, 2026**

Date of Peer Review: **Mar 03, 2026**

Date of Acceptance: **May 21, 2026**

Date of Publishing: **Jul 01, 2026**