

Health, Work and Empowerment of Marginalized Women in Moradabad District, Uttar Pradesh: A Sociological Study

Shailesh Singh¹, Dr. Akhilesh Kumar Pandey²

¹Research Scholar, Department of Sociology and Social Work, School of Education and Humanities
IFTM University, Moradabad, Uttar Pradesh, India

²Department of Sociology and Social Work, School of Education and Humanities
IFTM University, Moradabad, Uttar Pradesh, India

ABSTRACT

Women from Scheduled Castes, Scheduled Tribes and Other Backward Classes carry the combined weight of gender, caste and class. This paper examines the health status and empowerment of marginalized women in Moradabad district of western Uttar Pradesh and asks how the two are connected through work and nutrition. A descriptive-cum-diagnostic design was used. Data were collected from 400 women aged 18–59 years in three rural blocks and Moradabad city through a structured interview schedule, observation and case narratives. A 16-item Empowerment Index ($\alpha = .94$) and a 12-item Health Status Index ($\alpha = .90$) were constructed. Seven null hypotheses were tested with one-way ANOVA, independent-samples t-tests, chi-square, Pearson correlation and multiple regression. Empowerment differed significantly by social group ($F(2, 397) = 12.24, p < .001$), with OBC women scoring higher than SC and ST women. Women in paid work were more empowered than women confined to unpaid domestic work, yet they also worked longer days. Occupation was associated with musculoskeletal pain ($\chi^2(5) = 54.82, p < .001$), which was most common among agricultural labourers and brassware workers. Empowerment, dietary diversity and working hours together explained 25.6% of the variance in health status. Cost of treatment was the most common barrier to care across all three groups. The findings suggest that empowerment and health move together for marginalized women, and that policy has to address unpaid and paid work burdens alongside access to services.

Keywords: marginalized women, empowerment, women's health, caste, unpaid work, Moradabad, sociology of health

1. INTRODUCTION

Women make up about 48.5% of India's population (Office of the Registrar General & Census Commissioner, India, 2011), and yet their share of income, property, political voice and good health falls well short of that proportion. The shortfall is not spread evenly. A woman's caste, the class position of her household and the place where she lives shape the life chances open to her, so that Dalit, Adivasi and backward-caste women in poor households sit at the far edge of most indicators. Sociologists describe this position as marginality: a condition in which a group is pushed to the periphery of social, economic and political life and finds it hard to reach the resources and services that others take for granted (Thorat & Newman, 2010).

International commitments recognise the problem. The Convention on the Elimination of All Forms of Discrimination against Women (United Nations, 1979) and the Beijing Declaration and Platform for Action (United Nations, 1995) both treat women's full participation in decision-making as a condition for equality, development and peace. The Sustainable Development Goals Report 2022 warns that the world is not on track to reach gender equality by 2030 (United Nations, 2022), and the World Health Organization (2009) describes women's health as an urgent priority on which reliable evidence remains thin.

In India, Articles 14, 15(3), 42, 46 and 47 of the Constitution provide the basis for equality, special provisions for women, maternity relief and public health, and schemes such as Beti Bachao Beti Padhao, Pradhan Mantri Matru Vandana Yojana and the One Stop Centres build on them. National data, however, show how much remains to be done: 57.0% of Indian women aged 15–49 years were anaemic in 2019–21 (International Institute for Population Sciences [IIPS] & ICF, 2021).

Moradabad, known as the Peetal Nagri or brass city of India, offers a useful setting for studying these questions. Its export-oriented brassware and metal-handicraft industry draws large numbers of women from poor households into home-based and workshop labour, while its rural blocks remain dependent on agriculture. This paper asks how such work, together with nutrition and access to health care, relates to the health and empowerment of marginalized women. It treats health not as a purely biomedical state but, following Van der Kwaak (1991), as total well-being shaped by workload, nutrition and stress as much as by biology.

2. REVIEW OF LITERATURE

2.1 Theoretical Perspectives

Thinking about women and development has moved through several stages. The welfare approach of the 1950s to the early 1970s saw women mainly as mothers and recipients of relief. The Women in Development and, later, the Gender and Development (GAD) approaches shifted attention to equity, anti-poverty measures and the power relations between men and women (Moser, 1993). Moser's idea of women's triple role, in reproductive, productive and community work, remains useful for a district where women combine domestic labour with paid piece work. Hochschild's (1989) account of the "second shift" captures the same problem from a different angle: entry into paid work does not by itself reduce women's domestic load.

Kabeer (1999) defines empowerment as the expansion of people's ability to make strategic life choices in a context where this ability was previously denied. She identifies three interrelated dimensions: resources, agency and achievements. Batliwala (1994) similarly sees empowerment as a process of challenging existing power relations and gaining greater control over the sources of power. The capability approach of Sen (1999) and Nussbaum (2000) widens the lens further, judging development by what people are actually able to do and to be, including being adequately nourished and being in good health. Measurement work turns these ideas into indicators of decision-making, mobility and control over resources (Malhotra et al., 2002; Alkire et al., 2013).

Caste adds a layer that general theories of gender do not always capture. Chakravarti (1993) showed how Brahmanical patriarchy ties the control of women's sexuality and labour to the reproduction of caste hierarchy. Rege (1998) argued for a Dalit feminist standpoint, since Dalit women face forms of exclusion that neither mainstream feminism nor anti-caste politics fully address. Crenshaw's (1989) concept of intersectionality gives this a general form: disadvantages arising from different social positions do not simply add up but interact. These perspectives frame the present study.

2.2 Empowerment and Women's Health

A substantial body of work links women's autonomy to their health. Bloom et al. (2001) found that women in a north Indian city who had greater freedom of movement made more use of maternal health care. Jejeebhoy and Sathar (2001) showed that women's autonomy in India and Pakistan varied more by region than by religion, which points to the weight of local social structure. Shroff et al. (2009) reported that higher maternal autonomy was associated with lower child stunting in Andhra Pradesh. In low-income communities of Mumbai, Moonzwe Davis et al. (2014) observed that the relationship between empowerment and self-reported health was not uniform; some dimensions of empowerment were linked with better health and others were not. Gender inequity in health persists because it is built into norms, workloads and health systems at once (Sen & Östlin, 2008).

2.3 Caste, Work and Access to Health Care

Caste continues to shape health outcomes. Subramanian et al. (2006) traced a mortality divide in India in which caste, gender and standard of living each contributed to the risk of early death. Mohindra et al. (2006) found that even in Kerala, a state with good aggregate indicators, lower-caste women reported poorer health. Baru et al. (2010) documented inequities in access to health services by caste, class and region, and Goli et al. (2015) showed that caste gaps in rural Uttar Pradesh persisted despite economic change. Within the household, women's standing is tied to motherhood and family norms (Mehta & Kapadia, 2008), and gender scripts shape marriage timing and bargaining power (Desai & Andrist, 2010).

2.4 Research Gap

Most of these studies draw on national surveys or metropolitan samples. Few examine a district like Moradabad, where an artisanal export industry sits beside an agrarian hinterland, and fewer still study health and empowerment together with work and nutrition as connecting variables. The present study addresses that gap.

3. OBJECTIVES AND HYPOTHESES

The study had six objectives: (1) study the social and economic conditions of marginalized women in Moradabad district; (2) examine the type and nature of work done by these women and its relationship with their health; (3) assess the empowerment of marginalized women and its variation across social groups; (4) study the relationship between nutrition and health of marginalized women; (5) identify the difficulties faced by marginalized women in accessing health facilities; (6) study the relationship between health and empowerment of marginalized women. To meet these objectives, the following null hypotheses were tested at the .05 level of significance:

H₀₁: There is no significant difference in the empowerment of SC, ST and OBC women.

H₀₂: There is no significant difference in the empowerment of women engaged in paid work and women engaged only in unpaid domestic work.

H₀₃: There is no significant association between the type of work and musculoskeletal health problems.

H₀4: There is no significant relationship between daily working hours and health status.

H₀5: There is no significant relationship between dietary diversity and health status.

H₀6: There is no significant association between social group and major barriers to accessing health care.

H₀7: There is no significant relationship between empowerment and health status.

4. RESEARCH METHODOLOGY

4.1 Study Area and Design

The study followed a descriptive-cum-diagnostic design, combining quantitative survey data with qualitative material from observation and case narratives. Moradabad district lies in the Rohilkhand region of western Uttar Pradesh on the banks of the Ramganga. Three rural development blocks, Bilari, Kundarki and Thakurdwara, were selected purposively for their concentration of SC and OBC households and their mix of agricultural and craft-based livelihoods. Moradabad city was added to capture women working in the brassware and metal-handicraft units and in urban domestic service.

4.2 Universe and Sample

The universe comprised married, widowed and separated women aged 18–59 years belonging to Scheduled Castes, Scheduled Tribes and Other Backward Classes. Following the guidance of Krejcie and Morgan (1970) for a large population, a sample of at least 384 was required; 400 completed interviews were retained for analysis. Villages and wards with a large marginalized population were identified with the help of anganwadi workers and ASHAs, and respondents were selected purposively to cover the main occupational categories. Scheduled Tribe households are few in the district, and the 20 ST respondents should be read with that small number in mind. Table 1 shows the distribution of the sample.

Table 1: Distribution of Respondents by Block and Social Group

Block / Area	SC	OBC	ST	Total	%
Bilari	52	56	4	112	28.0
Kundarki	40	52	7	99	24.8
Thakurdwara	38	58	4	100	25.0
Moradabad (Urban)	35	49	5	89	22.2
Total	165	215	20	400	100.0

Note. Primary survey data (N = 400).

4.3 Tools of Data Collection

A structured interview schedule was prepared in Hindi and pre-tested on 30 women in a non-sampled village. It covered household background, work, food consumption, health problems, use of health services and empowerment. The Empowerment Index (EI) was built from 16 five-point items, four in each of the domains of household decision-making, freedom of mobility, economic control, and self-efficacy and voice. The Health Status Index (HSI) was built from 12 five-point items on self-rated health, physical functioning, energy and freedom from pain. Both indices were rescaled to range from 0 to 100. The Dietary Diversity Score (DDS) counted the number of ten standard food groups eaten in the previous day. Case narratives were recorded with consent from 12 respondents. Reliability was satisfactory: Cronbach's α was .94 for the Empowerment Index (domain values between .77 and .79) and .90 for the Health Status Index.

4.4 Data Analysis

Data were analysed in IBM SPSS Statistics. Differences in mean scores were tested with one-way ANOVA followed by Tukey's HSD and with independent-samples t-tests (Welch's correction where variances were unequal); the critical ratio (CR) is reported alongside t for large samples. Associations between categorical variables were tested with chi-square and Cramér's V, and relationships between continuous variables with Pearson's r. A multiple regression model identified the predictors of health status (Field, 2018). Effect sizes are interpreted following Cohen (1988).

5. RESULTS AND INTERPRETATION

5.1 Socio-Economic Profile of Respondents

The mean age of respondents was 33.4 years (SD = 8.3), and 43.0% were between 26 and 35 years. More than a third (36.0%) had never been to school, and only 9.2% had studied up to higher secondary level or beyond. The

median monthly household income was ₹9,800, and 29.0% of households earned ₹8,000 or less. Table 2 summarises the profile.

Table 2: Socio-Economic Profile of the Respondents

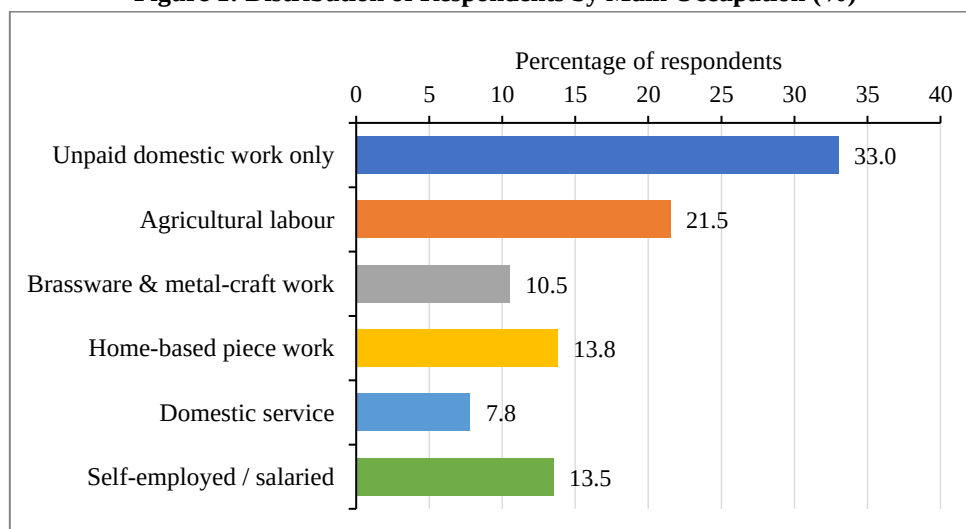
Characteristic	n	%	Characteristic	n	%
Social group			Education		
SC	165	41.2	Non-literate	144	36.0
OBC	215	53.8	Primary	76	19.0
ST	20	5.0	Middle	83	20.8
Age (years)			Secondary	60	15.0
18–25	74	18.5	Hr. Secondary & above	37	9.2
26–35	172	43.0	Monthly household income		
36–45	122	30.5	Below ₹5,000	21	5.2
46–59	32	8.0	₹5,001–8,000	95	23.8
Residence			₹8,001–12,000	156	39.0
Rural	311	77.8	Above ₹12,000	128	32.0
Urban	89	22.2			

Note. Primary survey data (N = 400).

5.2 Type and Nature of Work

Two in every three women (67.0%) did some form of paid work, and the remaining 33.0% were engaged only in unpaid domestic and care work (Figure 1). Agricultural wage labour was the largest single paid occupation (21.5%), followed by home-based piece work such as polishing, packing and embroidery (13.8%) and work in brassware and metal-craft units (10.5%). Women in paid work reported an average working day of 12.1 hours when domestic tasks were added, against 9.4 hours for women in unpaid work alone. Paid work therefore came on top of housework rather than in place of it.

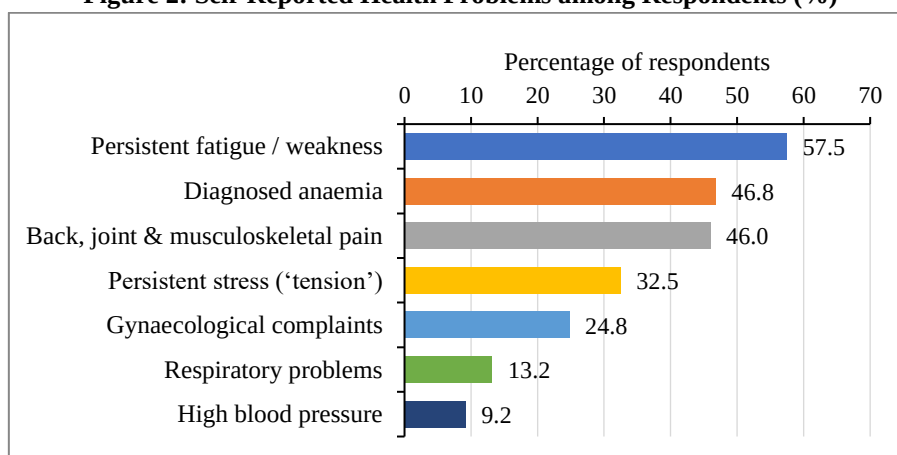
Figure 1: Distribution of Respondents by Main Occupation (%)



Note. Primary survey data (N = 400).

5.3 Health and Nutritional Status

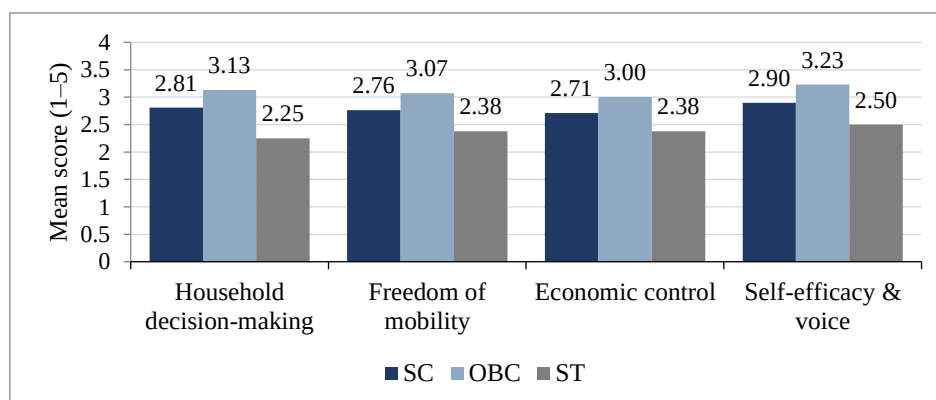
Persistent fatigue or weakness was the most common complaint (57.5%), followed by anaemia diagnosed in the past two years (46.8%) and back, joint or musculoskeletal pain (46.0%) (Figure 2). Nearly a third of the women (32.5%) spoke of persistent stress, which many described in their own idiom as tension, a term earlier reported among low-income women by Patel and Oomman (1999). Diets were narrow. The mean Dietary Diversity Score was 4.29 (SD = 1.36), and 54.5% of women had eaten from fewer than five food groups on the previous day, the threshold commonly used for minimum dietary diversity among women of reproductive age.

Figure 2: Self-Reported Health Problems among Respondents (%)

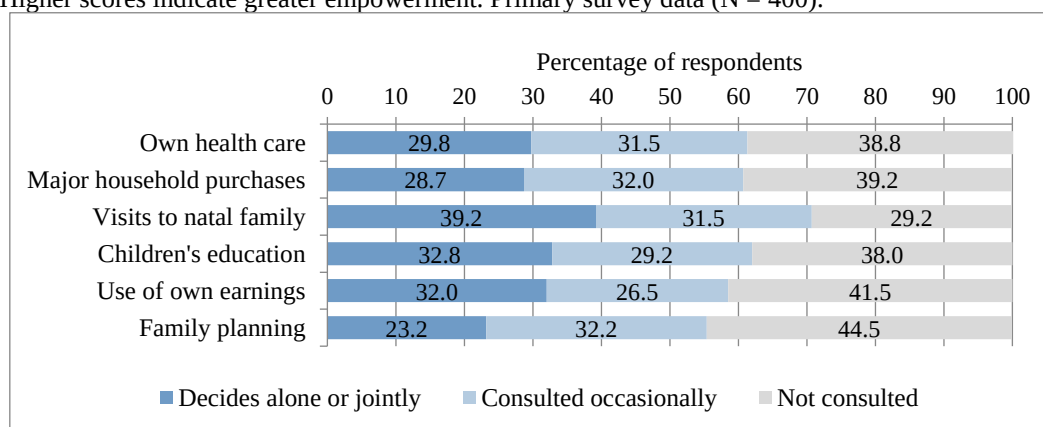
Note. Multiple responses permitted; percentages are of the total sample (N = 400).

5.4 Empowerment of Marginalized Women

The mean Empowerment Index for the whole sample was 48.54 (SD = 20.67) on a 0–100 scale, close to the midpoint. Economic control was the weakest domain (M = 2.85 on a 1–5 scale) and self-efficacy and voice the strongest (M = 3.06). Figure 3 shows that OBC women scored higher than SC women in every domain and that the small group of ST women scored lowest throughout. Decisions about family planning and the use of a woman's own earnings were the ones from which women were most often excluded (Figure 4): 44.5% and 41.5% respectively said they were not consulted.

**Figure 3: Mean Scores on Empowerment Domains by Social Group**

Note. Higher scores indicate greater empowerment. Primary survey data (N = 400).

**Figure 4: Participation of Respondents in Household Decisions (%)**

Note. Primary survey data (N = 400).

Education made a visible difference. Mean empowerment rose from 37.7 among non-literate women to 67.1 among those with higher secondary schooling or more, and health scores followed a similar path (Figure 5).

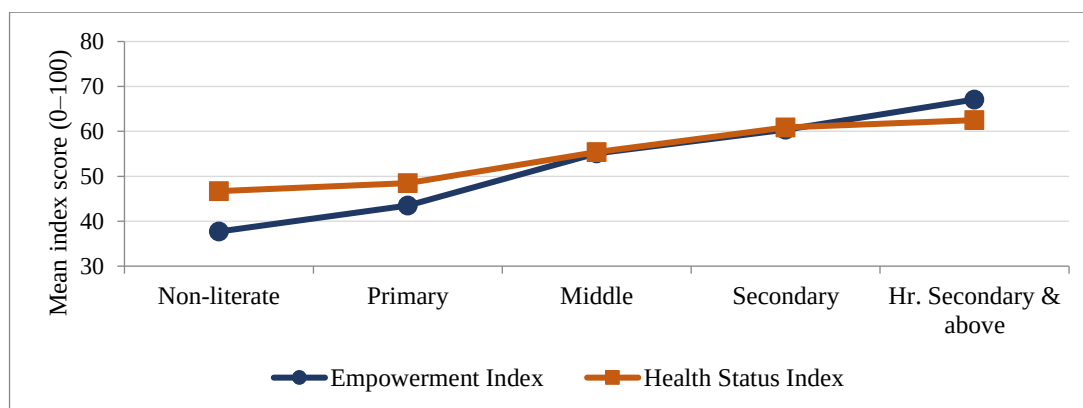


Figure 5 : Mean Empowerment and Health Scores by Educational Level

Note. Primary survey data (N = 400).

5.5 Access to Health Care

The cost of treatment and medicines was the barrier most often reported (46.5%), even though primary care in government facilities is nominally free (Figure 6). Loss of a day's wage (33.8%) and distance or lack of transport (33.5%) came next. More than a quarter of women (28.7%) said they delayed care because no woman doctor was available, and 23.5% needed permission from husbands or in-laws before visiting a facility. About one in five (19.0%) reported rude or discriminatory treatment by health staff.

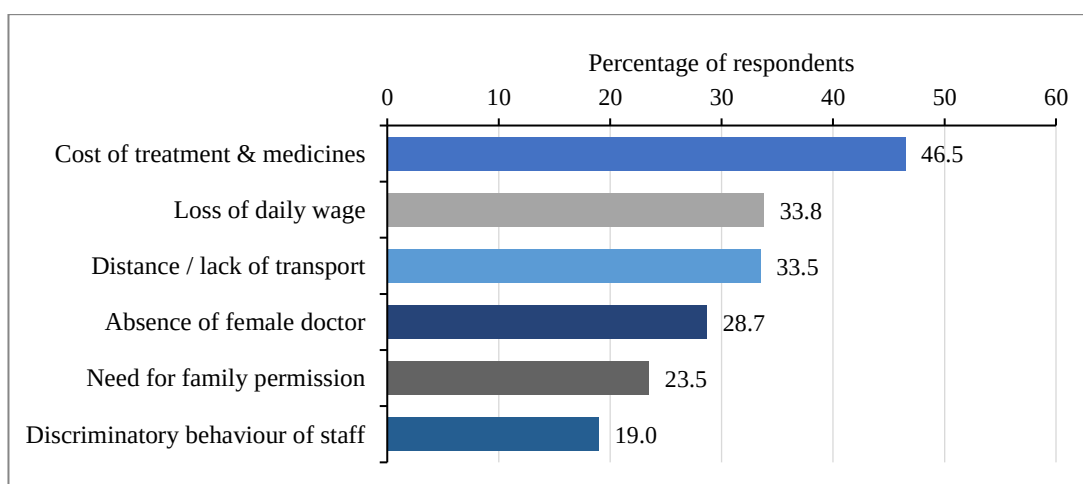


Figure 6: Barriers Faced in Accessing Health Care (%)

Note. Multiple responses permitted; percentages are of the total sample (N = 400).

5.6 Testing of Hypotheses

Before the hypotheses were tested, the distribution of the main variables was examined. The Health Status Index had a mean of 52.44 (SD = 19.58), and skewness and kurtosis for the Empowerment Index, Health Status Index, Dietary Diversity Score and working hours all lay within ± 1 , so parametric tests were considered appropriate.

H₀₁: Social group and empowerment. One-way ANOVA showed a significant difference in empowerment across the three social groups, $F(2, 397) = 12.24$, $p < .001$, $\eta^2 = .058$ (Table 3). Levene's test confirmed equal variances ($p = .741$). Tukey's HSD showed that OBC women ($M = 52.67$) scored significantly higher than both SC women ($M = 44.87$, $p < .001$) and ST women ($M = 34.38$, $p < .001$); the difference between SC and ST women did not reach significance ($p = .072$). H₀₁ is rejected.

Table 3: One-Way ANOVA of Empowerment Index by Social Group

Source	SS	df	MS	F	p	η^2
Between groups	9,900.60	2	4,950.30	12.24	< .001	.058
Within groups	160,527.71	397	404.35			
Total	170,428.31	399				

Note. Group means (SD): SC = 44.87 (19.89), n = 165; OBC = 52.67 (20.36), n = 215; ST = 34.38 (19.05), n = 20.

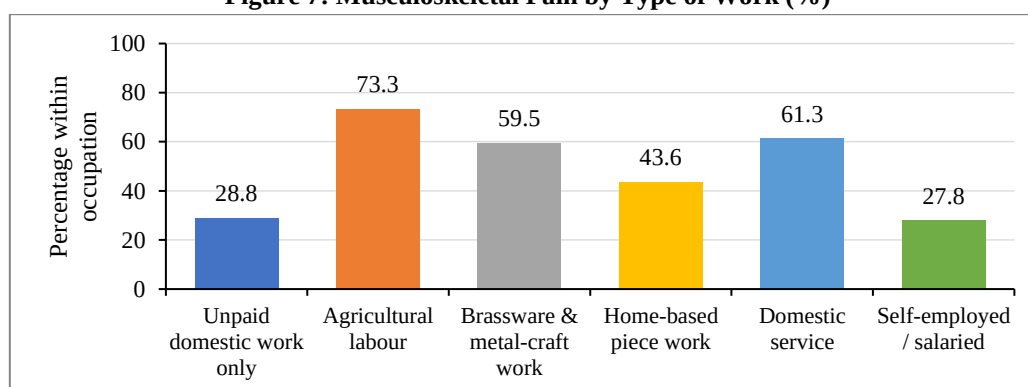
Ho2: Paid work and empowerment. Women in paid work had a mean Empowerment Index of 52.57, against 40.35 for women in unpaid domestic work only. The difference was significant, $t(273.3) = 5.88$, $p < .001$, with a medium effect (Cohen's $d = 0.61$). Ho2 is rejected. Urban women also scored higher than rural women (Table 4).

Table 4: Comparison of Empowerment Index by Work Status and Residence

Group	n	M	SD	t / CR	p	Decision
Paid work	268	52.57	20.21	5.88	< .001	Ho2 rejected
Unpaid domestic work only	132	40.35	19.18			
Urban	89	55.27	20.97	3.46	< .001	Significant
Rural	311	46.61	20.20			

Note. Welch's t-test; for large samples the critical ratio equals the Welch t value. Critical value at .05 = 1.96.

Ho3: Type of work and musculoskeletal problems. The chi-square test showed a significant association between occupation and back, joint or musculoskeletal pain, $\chi^2(5, N = 400) = 54.82$, $p < .001$, Cramér's $V = .37$. Ho3 is rejected. Agricultural labourers (73.3%) and women in domestic service and brassware units reported such pain most often, while women in unpaid domestic work and in self-employed or salaried work reported it least (Figure 7).

Figure 7: Musculoskeletal Pain by Type of Work (%)

Note. Percentages are within each occupational group. $\chi^2(5) = 54.82$, $p < .001$.

Ho4, Ho5 and Ho7: Correlations with health. Table 5 presents the correlation matrix. Daily working hours had a weak but significant negative correlation with health status ($r = -.10$, $p = .037$), so Ho4 is rejected. Dietary diversity was moderately and positively correlated with health ($r = .39$, $p < .001$), and Ho5 is rejected. Empowerment was also positively correlated with health ($r = .37$, $p < .001$), so Ho7 is rejected; empowerment alone accounted for about 13.4% of the variance in health scores. One finding deserves comment: empowerment was positively related to working hours ($r = .18$), which reflects the longer days of women in paid work who were, on average, more empowered.

Table 5: Pearson Correlation Matrix of Study Variables

Variable	1	2	3	4	5
1. Empowerment Index	—				
2. Health Status Index	.37**	—			
3. Dietary Diversity	.24**	.39**	—		
4. Working hours	.18**	-.10*	.01	—	
5. Education	.50**	.30**	.43**	-.05	—
6. Household income	.26**	.21**	.26**	-.01	.30**

Note. N = 400. * $p < .05$. ** $p < .01$ (two-tailed).

The scatter plot in Figure 8 shows the spread of the relationship between empowerment and health. The trend is clearly upward, but the scatter is wide, which indicates that empowerment is one influence on health among several.



Figure 8: Relationship between Empowerment and Health Status

Note. $r = .37$, $p < .001$, $N = 400$. The line shows the linear trend.

H₀₆: Social group and barriers to care. The proportion of women who faced either cost or distance as a barrier was 60.0% among SC, 65.6% among OBC and 75.0% among ST women. The association was not significant, $\chi^2(2, N = 400) = 2.41$, $p = .299$, Cramér's $V = .08$ (Table 6). H₀₆ is therefore retained.

Table 6: Association between Social Group and Major Barriers to Health Care

Social group	Faced barrier (n)	%	No barrier (n)	%	Total
SC	99	60.0	66	40.0	165
OBC	141	65.6	74	34.4	215
ST	15	75.0	5	25.0	20
Total	255	63.7	145	36.2	400

Note. $\chi^2(2) = 2.41$, $p = .299$. Major barrier = cost of treatment or distance to facility.

Multiple regression. To see which factors predict health when others are held constant, the Health Status Index was regressed on empowerment, dietary diversity, working hours, education, household income and age (Table 7). The model was significant, $F(6, 393) = 22.49$, $p < .001$, and explained 25.6% of the variance (adjusted $R^2 = .24$). Empowerment ($\beta = .32$) and dietary diversity ($\beta = .30$) were the strongest positive predictors, and working hours had a significant negative effect ($\beta = -.16$). Once these were controlled, education, income and age made no independent contribution. Education and income thus seem to act on health through empowerment and nutrition. Variance inflation factors were below 2 and the Durbin-Watson statistic was 2.08, so multicollinearity and autocorrelation were not concerns. Table 8 summarises all seven tests.

Table 7: Multiple Regression Predicting Health Status Index

Predictor	B	SE	β	t	p	VIF
(Constant)	25.77	21.55		1.20	.233	
Empowerment Index	0.30	0.05	.32	6.09	< .001	1.46
Dietary Diversity Score	4.37	0.71	.30	6.16	< .001	1.28
Daily work hours	-1.64	0.46	-.16	-3.59	< .001	1.06
Education level	-0.06	0.80	-.00	-0.08	.940	1.61
Household income (log)	1.61	2.34	.03	0.69	.492	1.18
Age (years)	-0.09	0.10	-.04	-0.89	.373	1.03

Note. $R = .506$, $R^2 = .256$, adjusted $R^2 = .244$; $F(6, 393) = 22.49$, $p < .001$. Dependent variable: Health Status Index.

Table 8: Summary of Hypothesis Testing

No.	Relationship tested	Test	Result	Decision
H ₀ 1	Social group → Empowerment	One-way ANOVA	$F = 12.24, p < .001$	Rejected
H ₀ 2	Paid work → Empowerment	t-test	$t = 5.88, p < .001$	Rejected
H ₀ 3	Type of work × MSK pain	Chi-square	$\chi^2 = 54.82, p < .001$	Rejected
H ₀ 4	Working hours ↔ Health	Pearson r	$r = -.10, p = .037$	Rejected
H ₀ 5	Dietary diversity ↔ Health	Pearson r	$r = .39, p < .001$	Rejected
H ₀ 6	Social group × Barriers	Chi-square	$\chi^2 = 2.41, p = .299$	Retained
H ₀ 7	Empowerment ↔ Health	Pearson r	$r = .37, p < .001$	Rejected

Note. Level of significance = .05.

6. DISCUSSION

Three linked patterns emerge. The first is a gradient within marginality: policy often treats marginalized women as one category, but OBC women were more empowered than SC and ST women. This fits the view of Chakravarti (1993) and Rege (1998) that caste and gender work together, Crenshaw's (1989) point that disadvantages interact, and the caste gaps in rural Uttar Pradesh reported by Goli et al. (2015).

The second pattern is the double edge of paid work. Earning women had more say and more control over money, in line with Kabeer's (1999) view of resources as a precondition of agency, but their longer working days were linked with poorer health. Paid work added to domestic labour rather than replacing it, the burden Moser (1993) called the triple role and Hochschild (1989) the second shift. High rates of musculoskeletal pain among labourers and metal-craft workers show the physical cost of unregulated, strenuous work.

The third pattern is the close tie between empowerment, nutrition and health. Empowerment and dietary diversity remained the strongest predictors of health even after education and income were controlled. This agrees with Bloom et al. (2001) and Shroff et al. (2009), who found that autonomy improves the use of care and the nutrition of the household, and with the capability approach of Sen (1999) and Nussbaum (2000), which treats being well-nourished and healthy as basic capabilities. As in Mumbai (Moonzwe Davis et al., 2014), the relationship is not uniform, and some empowered women still have poor health.

Cost, lost wages and distance were reported at similar rates by all three social groups, so the poorest households share these obstacles irrespective of caste. Other barriers, such as the absence of women doctors, the need for permission and rude treatment by staff, are social rather than economic, consistent with Baru et al. (2010). Several women in the case narratives waited for a husband's day off before visiting the health centre.

7. CONCLUSION AND SUGGESTIONS

Health and empowerment of marginalized women in Moradabad district rise and fall together, with work and nutrition sitting in between. Women with more say at home, more freedom to move and more control over money reported better health, and a varied diet added to it. Long working days wore health down, and women in strenuous field and metal-workshop work carried the heaviest load of pain. Caste position mattered for empowerment within the marginalized category, while the cost of care was a burden shared by the poor.

Several suggestions follow from these findings:

1. Health and empowerment programmes should be planned together. Self-help groups and livelihood missions can include nutrition counselling, health literacy and screening for anaemia.
2. Occupational health measures are needed for women in brassware and metal-craft units and in home-based piece work, including ergonomic tools, ventilation, rest periods and coverage under the e-Shram and social security schemes.
3. Programmes for SC and ST women should be targeted more precisely within the broader category of marginalized women, since their empowerment scores were the lowest.
4. Women doctors, evening OPD hours, outreach camps, attention to dietary diversity and training of staff against discrimination would bring more women into care..

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