



Health Hazards & Challenges Faced by Readymade Garment Factory Women Workers at Bengaluru - A study

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Abstract

Purpose : The chief intention of presented research paper is to probe whether demographic and socio-economic profile of respondents impacts on the study or not. Further, the study is conducted to know the health hazards faced by Ready Made Garment (RMG) factory women employees in Bengaluru and challenges faced and stress and stress drivers. Bengaluru the 'garment capital' is a major hub, producing about 30% of the nation's RMG. The flight of the women workers who are in majority migrants, who came to Bengaluru on different reasons is full of problems and employers searching new options to make more and more profits like relocation in nearby villages, quick retrenchment to avoid legal problems and reappointment etc., which are to be discharged.

Methodology : A structured questionnaire that is known previously was administered as schedule to collect the necessary data. Chi-square, contingency co-efficient, regression analysis, Kendall's co-efficient of concordance and ANOVA statistical tools were performed and MS-Excel 16 also used while computing regression and ANOVA.

Findings : The study found that demographic socio-economic characteristics impacting on the study. Further, the study probed about the health hazards and found musculoskeletal is the biggest health problem followed by anaemia and menstrual irregularities. The challenges faced by women workers in the order includes rampant gender based violence, stagnant wages and infrastructure deficits. The stress drivers are in the order job insecurity long hours working and strenuous working conditions.

Concluding remarks : The women workers working in the RMG factories are trapped and finds no escape on account of financial commitments, the need to run their families decently. The study by labour groups reveals that workers are physically harassed like physical dragging, verbal degradation and restricted toilet breaks are the usual strategies followed by maintain high production target.

Keywords : Stress, overtime, stagnant, unionisation gender discrimination, infrastructure, exploitation retrenchment, job security.

Introduction : There are no direct or stand alone government owned Ready Made Garment Units (RMG) in Bengaluru. RMG sector is entirely driven by private export and manufacturers. Estimated private units vary from 900 to 2500 registered RMG units ranging from small workshops to massive exporters like Shahi Exporters, Textiles and clothing are felt as the oldest, largest and most global industries at global level and in India, it is considered as the second largest employment sector (Lillypet et al., 2017). It plays a significant role as a source of earning foreign exchange (Keane J. et al., 2008). Garment units in India contributes to the economic growth and it is the second largest sector for employment. Innumerable unskilled labours, many of them migrated from within Karnataka and outside Karnataka are absorbed in the areas of sewing, cutting, ironing, packing and lifting heavy loads which are painful, monotonous, continuous and prolonged. In the process of earning more and more the female workers are slowly trapped by unhealthy and different diseases. The workers in the RMG units are exposed to long sitting prolonged standing, highly repetitive work, lifting of heavy objects and working with their back twisted or bent forward which are impacting on work ability, and attract sickness (Chandra N. et al., 2014). Bengaluru is nicknamed as 'Garment hub' of India and very unfortunately workers are facing innumerable health hazards, some are explainable and others are not explainable. The health issue arises from neurological area causes variety of health hazards to the employees. Work in some units is subcontracted out in some manufacturing enterprises (Mezzadri, 2014) and as per National Commission on Enterprises in the unorganised sector (NCEUs, 2017) hiring labour is regularly declining but employers prefer casual labour. The practise like payment of low wages, retrenchment for the day and next continuation to cut the services of labour, denial of potable water, ill equipped units, lack of infrastructure should be discouraged in order to give justice to the low wage paid, migrated, and forced to accept the job against family conditions. Further, in Bengaluru hourly targets are excessively elevated, and are subjected to verbal abuse when the workers fail to meet the targets. The legally mandated double of the regular hourly wage for overtime is not disbursed (Lillypet et al. 2017). Lack of the job security and limited access to healthcare multiply their hardships. In addition to these problems stressors impact the living modes leading to high stress and mental health. Without introduction some beneficiary changes, the exploitation and poor conditions will continue to perpetrate harmony the individuals (Reddy, 2019).

Statement of the problem:

The employee respondents in RMG units at Bengaluru work on a hyper competitive, export-driven environment where lower margins speaks about existing precarious labour standards, unsafe work environments and highly stressful production targets. The RMG women workers face dual type of burden one is severe industrial pressure and the second one domestic responsibilities leveraging their vulnerability. Continuous exposure to occupational dust, poor ergonomic design, aggressive oral verbal monitoring and rigid hourly target which particularly destroy health and psychological well being of the RMG workers. In the absence of workplace modifications and formal support structure, these condition drive severe musculoskeletal disorders, extreme nutritional deficiency respiratory hazards, and systematic burn out, finally reducing employee productivity and strengthening their life. The working conditions of many unorganised workers are terrible, but often goes without identifying due employers lack of will and governments lack of will to introduce and implement straight norms (Rajashekhhar Durgam, Suchitra, J. Y. and Manjula Ramachandra, 2007). RMG units in Bengaluru confines female workers to a precious, low wage labour trap. To the migrants entry into RMG sector is easy but they struggle a lot in the vicious circle. Though female RMG workers are behind exports but they struggle a lot in the vicious circle. Though female RMG workers are behind exports but their social and economic development is disturbed by systematic unequal and institutional apathy.

Review of literature

The study by Most. Shamima Nasrin et al. (2025) examines how total RMG exports earnings and creates large scale employment. The main intention of their research is about the extent of RMG exports drive total exports, analyse the trend and persistence of RMG's share in exports text the long-run relationship between RMG and total exports and evaluate the stability of this relationship over time. The research study used quantitative research design using secondary time series data. The analytical study integrate descriptive trend analysis, a leg linear regression model, and econometric techniques including Augmented Dickey - Fuller (ADF), Auto regressive Lag etc., The study found that in the long run ARDL i.e., Auto Regressive Distributed Model, Co-efficient, 0.956 $P < 0.01$ and short run co-efficient 0.947, $P < 0.01$, confirm a strong, positive, and statistically significant relationship between RMG exports and export earnings.

Harish et al. (2018) studied 848 respondents and out of this 102 (12.03%) were found to have pimguecula or pterygium and out of this 91% were females the rest males. The mean age of the affected was 39 years. The eye disease is considered is major occupational health problem among the garment workers. Most of the employees undermine the gravity of eye morbidity and usually attribute to fine cotton dust fibre or other dust particles. Garment workers eye allergy due to prolonged exposure to allergens at work place. The researchers well said that 1 in 8 suffer from this eye morbidity and high proportion of morbidity felt as a serious occupational health hazard. The authors have suggested for eye streaming once in 6 months and rotation of workers based on the nature of work they perform.

Siddique (2019) studied about occupation health problems faced by women employees working in RMG units are suffering from health hazards like back pain while stitching, including problem while collecting and dumping the garments, piles complaint due to long hours sitting and knee pain while stitching and for those who works more hours.

Rohini Mohan (2017) remarked that about 80% garment workers in Bengaluru have always been from rural areas, but as per the researcher there are more interstate migrations. In the past 5 years, the fashion industry's requirements for cheaper and faster labour have prompted garment units to concentrate on rural India. With the migrants from distant villages in eastern and central India, the factories are relocated to villages in South India. The landless labourers and farmers continue to arrive from rural Karnataka in search of garment sector jobs. The research on migrant workers have shown that a poorer, younger, locally unmoored workforce, in an industry where transparency not known, are subjected to vulnerable to exploitation.

Madhumita Dutt et al. (2025) conducted a survey in Bengaluru both in Kannada and Hindi and transcribed into English. The workers were interviewed as part of a large research project funded by Ford Foundation, on the impact of pricing and sourcing practices on the conditions of labour in India RMG export sector. The primary data for the project were collected through in-person surveys of employees i.e., owners of RMG units and garment workers, but a detailed interviews of various stakeholders including workers, were conducted to contextualize and provide deeper insights into labour arrangements work intensification, and issues such as verbal usage an sexual harassment. The researchers have contributed to a recent wave of literature formulating. The authors contributed to renewing the framework by viewing regions through me lens of workers life stories. Though the life stories the researchers found that workers are subjected to daily abuse escalated with the pressure of production, intensified production targets, forced transfers, no job security, all contract work.

Objectives of the study :

1. To study demographics socio-economic characteristics of women garment workers at RMG factories in Bengaluru.
2. To analyse the health hazards faced by women workers.
3. To study the challenges faced by women RMG workers.
4. To study stress drivers in the RMG units.

Hypotheses:

H₀₁ : There is no significant variations among the demographics and socio economic characteristics of respondents and hence do not influence the study.

H₀₂ : Women RMG workers at Bengaluru are not facing any health hazards.

H₀₃ : Women RMG workers are not facing any challenges.

H₀₄ : Stressors are not common in RMG units and stressors do not impacts the study.

Research questions :

1. What is the extent of variations in demographic, socio-economic profile of respondents ?
2. What are the health hazards faced by women workers?
3. What are the challenges faced by women RMG workers?
4. What are the stressors faced by women workers in RMG units at Bengalurlu?

Limitations:

1. The study is confined only to Urban Bengaluru.
2. Only 3 factories women labourers were interviewed and data collected.
3. Time and financial constraints were faced.

Research Methodology

Source of data : The present research work rely on both primary and secondary data. primary data gathered by administering structured questionnaire as schedule. Many of garments workers were migrated from neighbouring states and hence there is a language barrier. The pretested questionnaire was well designed based on the objects set for the study. Final questionnaire was designed on the basis of pilot survey questionnaire. The secondary sources include, researcher papers, reports, books and internet.

Questionnaire : Factories of RMG at present is run by migrant workers and that is why some of the RMG units moved to nearby villages in order to attract migrants. The questionnaire was drafted in Kannada and English and transcribed to the migrant workers in their language with the assistance of co-workers. The literacy level of migrated labourers with in Karnataka or Rural Karnataka is not up to the expected level and hence questionnaire was administered as schedule.

Participants in the study: The participants belongs to the areas of Peenya I & II, Bommasandra and Mysore Road. The RMG units established outside Bengaluru could not be visited due to time and financial constraints. Sample and sampling technique: The sample of the study is fixed at 100 for this study. Respondents were interviewed either in the morning before reporting to the job or after leaving the job. All the respondents

extended their best cooperation to the data collector. The sample wise and area includes that Peenya I & II Industrial Area 50, Bommasandra 15, Mysore Road 35.

Method of data collection : The study adopted χ^2 and contingency co-efficient techniques to study demographic and socio-economic profile of the respondents. Further regression analysis was performed to measure health hazards faced by women RMG workers, Kendall's co-efficient of concordance was performed to study and analyse the challenges faced, and ANOVA used to define the respondents facing stress in RMG factories at Bengaluru.

Survey Findings: Table-1 bring to light the demographics, socio-economic profile of respondents. Table reveals that 75 respondents are married, 16 unmarried and 9 remained as single. The age details show that 41 belongs to the age group of 30-35 years, followed by 24 to the 35-40 years, 22 to the 25-30 years, 7 > 40 years and 6 between 20-25 years. The education data reveals that 12 are illiterates, 41 studied up to 10th standard, 23, 7th standard, 12 PUC, 7 degree and 5 ITI certificate holders. The monthly income of respondents stood at 45 getting an income in between 10-15K 29 getting income in the range of 5-10K, 16 < 5K, and 41 respondents come to the factory in hired vehicle, 15 management vehicle, two wheelers, rapido and tempo travellers, 8 each either walk to factory and train / metro. 13 respondents walk and auto rickshaw and 6 workers come to factory by private vehicle. 56 respondents take a travel time in between >30 minutes and <60 minutes, 35>15 minutes but <30 minutes, 5>90 minutes but <120 minutes and 4 > 60 minutes but less than 90 minutes. 40 are residing in their own house, 19 rent 16 in slum, 10 outskirts 18 lease and 7 factory accommodation. 61 are Hindus, 19 Christians, 8 Muslims, 5 < Jain and 7 others i.e., Buddhists, Parsees and no caste. Respondents source of information is 48 friends 27 own, 20 relatives, 5 neighbours. The migration data reveal that 64 rural to Bengaluru, 16 within Bengaluru Urban and 28 outside Karnataka. The department wise classification of workers reveal that 37 belongs to production, 20 cutting, 11 finished goods, 10 training 6 maintenance, 6 quality and 4 supply chain. The demographic and socio economic characteristics shows significant with high degree of relationship.

Table - 2 confide details regarding health problems faced by RMG workers. To measure the health hazards faced by workers Regression Analysis tool was performed. The opinions collected are place 3 point Likert scale varying from strongly agree to somewhat agree. There are 84 respondents who said strongly agree over the health hazards followed by 10 agree and 6 somewhat agree. Further 37 respondents stated about the musculoskeletal health hazard, followed by 14 anaemia, 9 about menstrual irregularities and 8 each respiratory problems and stress. The dependent variable x health hazard has a proven reliable relationship with dependent variable i.e., y, different health hazards. X - variable P - value 0.004803 indicates independent variable statistically significant meaning it has a strong reliable effect on dependent variable. The intercepts lack of Y (when x is zero) cannot be reliably dusting wished from zero, which is common and usually safe to ignore.

Table - 3 highlights data about challenges faced by RMG workers at Bengaluru. To measure the challenges faced Kendall's co-efficient of concordance statistical technique was performed. The challenges faced varied from rampant gender based violence to exploitation and lack of organised union support. There are 34 respondents who stated about rampant gender based violence followed by 10 stagnant wages, 9 said about infrastructure deficits, 8 about strict quick product targets. The calculated value being 21.6 > the critical value 16.919 at 0.05 level of significance, "w" fails to accept H_0 and accepts H_1 and hence it is concluded that there exist significant relationship between the related variables and the findings are statistically significant.

Table - 4 speaks about stress faced by workers. The stress is caused by different factors or test drivers, and varies from job insecurity to rigid production targets. Stress is a major well known health hazard in the RMG factories in Bengaluru. Stress affects the daily life of employees. Stress leads to severe mental and physical ailments, including insomnia, chronic fatigue and depression. ANOVA quantitative statistic was employed to measures the stress drivers. There are 80 respondents who expressed strongly agree followed by 15 agree and 5 somewhat agree. 33 said about job insecurity, 20 about long working hours, 13 strenuous relationships, P-value being 0.000191 is < 0.05 the significance level and further, F being 14.30968 > F crit 3.554557 and hence ANOVA fails to accept H_0 and accepts H_1 and hence it is concluded that there exist significant variation in the stress drivers and both the variable are related i.e., independent variables significantly influences the dependent variable.

Conclusion : The most burning problem faced by women RMG workers in Bengaluru is severe wage discrepancies, apathy to raise minimum wage hike. Out of 4 lakh 80% are women who are trapped in a cycle of extreme financial strain and systematic workplace vulnerabilities. Further, on account of international fashion brands continuous insist to keep cost low, factories follow unethical production targets to stay more profitable at the cost of workers. A culture of fear and readymade indignity practices exist among innumerable RMG units. : The study found that demographic socio-economic characteristics impacting on the study. Further, the study probed about the health hazards and found musculoskeletal is the biggest health problem followed by anaemia and menstrual irregularities. The challenges faced by women workers in the order includes rampant gender based violence, stagnant wages and infrastructure deficits. The stress drivers are in the order job insecurity long hours working and strenuous working conditions.

Table - 1 : Demographics of respondents

Demographics of respondents	χ^2	TV @ 0.05	df	Result of χ^2	"c"	Result of c
Marital status	78.86	5.9915	2	Significant	0.66	High Degree
Age in years	41.30	9.487	4	Significant	0.54	High Degree
Education	54.26	11.070	5	Significant	0.59	High Degree
Monthly income (INR)	58.60	9.4877	4	Significant	0.60	High Degree
Mode of communication	62.40	12.592	6	Significant	0.61	High Degree
Travel time	75.68	7.847	3	Significant	0.66	High Degree
Residence	47.75	11.070	5	Significant	0.56	High Degree
Religion	111.00	9.4877	4	Significant	0.72	High Degree
Source of information to join RMG factory	38.57	7.8147	3	Significant	0.52	High Degree
Department wise classification of workers	61.28	14.067	7	Significant	0.63	High Degree
Migration	38.08	5.9915	2	Significant	0.52	High Degree

Source: Field Survey

Note : χ^2 = Chi-square

'c' = $\sqrt{(\chi^2 / \chi^2 + N)}$

Where 'c' = Contingency Co-efficient, N = Number of Observations

When the value 'c' is equal or nearer to 1, it means that there is high degree of association between attributes. Contingency co-efficient will always be less than 1. High degree is considered here if 'c' is 0.50 and above.

Table-2 : Health hazards faced by RMG workers

Health Hazards	SA	A	SWA	T
Musculoskeletal	31	4	2	37
Anaemia	11	2	1	14
Menstrual irregularities	7	1	1	9
Vision problems	5	1	0	6
Respiratory ailments	6	1	1	8
Stress	6	1	1	8
Headache	5	0	0	5
Hypertension	5	0	0	5
Infertility among women	4	0	0	4
Thyroid	4	0	0	4
Total	84	10	6	100

Source : Field Survey

Note : SA - Strongly Agree, A - Agree, SWA - Somewhat Agree, T - Total

Summary Output

Regression Statistics	
Multiple R	0.806686
R Square	0.650743
Adjusted R	0.607086
Standard E	5.136766
Observation	10

ANOVA

	df	ss	MS	F	Significance F
Regression	1	393.3091	393.3091	14.90577	0.004803
Residual	8	211.0909	26.38636		
Total	9	604.4			

	Coefficient	Standard Error	t-Stat	P-value	Lower 95%	Upper 95%	Lower 95%	Upper 95%
Intercept	2.727273	2.190324	1.245146	0.248313	-2.32362	7.77817	-2.32362	7.77817
X variable	9.454545	2.448857	3.860799	0.004803	3.807471	15.10162	3.807471	15.10162

Source : Field survey

Decision : The dependent variable x has a proven reliable relationship with dependent variable Y. 0.004803 indicates independent variable statistically significant, meaning it has a strong reliable effect on dependent variable. The intercept lack of Y (when x is zero) cannot be reliably distinguished from zero, which is common and usually safe to ignore.

Table - 3 : Challenges faced by women RMG workers at Bengaluru

No.	Challenges faced	SA	A	SWA	RT	RT ²
1	Rampant gender based violence	29	4	2	34	1156
2	Stagnant wages	6	1	1	10	100
3	Strict quick production targets	8	1	-	8	64
4	Denied social security benefits	5	1	1	7	49
5	Migrant vulnerability	2	-	-	2	4
6	Termination without notice	5	-	-	5	25
7	Restricted toilets breaks	6	1	-	7	49
8	Heavy workload, extreme stress and work life imbalance	5	1	-	6	36
9	Infrastructure deficits	7	1	1	9	81
10	Migrants getting delayed payment	3	-	-	3	9
11	Exploitation and lack of organised union support	6	1	-	7	49
	Total	84	11	5	100	1622

Source : Field Survey

Note : SA - Strongly Agree, A - Agree, SWA - Somewhat Agree, RT - Row Total

$$SSR = \sum RT^2 - (\sum RT)^2 / N$$

$$= 1622 - (100)^2 / 11 = 1622 - 909.09 = 712.91$$

Use the sum of squares (SSR) in the following formula to obtain Kendall's 'W'.

$$W = 12 \times SSR / K^2 N (N^2 - 1) = 12 \times 712.91 / 9 \times 11 (11^2 - 1)$$

$$= 8554.92 / 9 \times 11 (121-1)$$

$$= 8554.92 / 11880 = 0.720$$

Test the significance of 'w' by using χ^2 statistics

$$\chi^2 = K (n-1) W$$

$$= 3 (11-1) 0.720 = 3 \times 10 \times 0.720 = 21.65$$

Decision : At 9 df with 0.05 level of significance the TV = 16.919. The calculated value being 21.65 higher than the critical value and hence 'w' fails to accept H_0 and accepts H_1 . Therefore, it is concluded that there exist significant relationship between the related variables and the findings are statistically significant.

Table-4 Respondents facing stress in the RMG units at Bengaluru.

Stress drivers	SA	A	SWA	T
Job insecurity	25	6	2	33
Long working hours	15	4	1	20
Strenuous working conditions	10	2	1	13
Strained relationships	9	1	0	10
Less time for family	8	2	1	11
Lack of administrative support	7	0	0	7
Rigid production targets	6	0	0	6
Total	80	15	5	100

Source : Field Survey

Note : SA - Strongly Agree, A - Agree, SWA - Somewhat Agree, T - Total

Summary

Groups	Count	Sum	Average	Variance
Column 1	7	80	11.42857	44.28571
Column 2	7	15	2.142857	4.809524
Column 3	7	5	0.714286	0.571429

ANOVA

Source of variation	SS	df	MS	F	P-value	F-crit
Between the groups	473.8095	2	236.9048	14.30968	0.000191	3.554557
Within the groups	295.0000	18	16.55556			
Total	771.8095	20				

Source : Field work

ANOVA Analysis:

The P-value is < 0.05 the threshold level and hence H_0 is rejected and hence it is concluded that there exist significant relationship between the variables and drivers of stress are impacting on the RMG unit women workers.

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