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Invisible labor, real burden: Domestic work and the marks of gender inequality

Trabalho invisível, sobrecarga real: trabalho doméstico e as marcas da desigualdade de gênero

Abstract

Objective: To describe the prevalence of stressors from unpaid domestic work (UNDW) and domestic overload, with an emphasis on gender differences. **Methods:** This was a cross-sectional, household-based study of residents aged ≥ 15 years in Feira de Santana, Bahia. UNDW stressors, assessed by the effort-reward imbalance model in domestic and family work (ERI-domestic), and domestic overload were stratified by gender. **Results:** 3,622 individuals participated, of whom 70.2% were women. The prevalence of high domestic overload was 34.4% and of high ERI-domestic was 34.0%, higher among women. In both genders, high domestic overload was significantly associated with: low income, caring for children, doing small repairs, shopping, planning the organization of the home, excessive commitment to UNDW, and not being head of the household. Among women only, the following factors were associated with high domestic overload: younger age, having a partner, having children, more time dedicated to domestic activities, and not sharing tasks. For men, having a partner, children, and low schooling reduced the imbalance. In women, high ERI-domestic was associated with lower age and income, paid work, weekly workload, doing small repairs, caring for children and the elderly. **Conclusions:** UNDW disproportionately affects young and low-income women.

Keywords: Occupational Stress; Domestic Work; Home Environment; Gender; Occupational Health.

Resumo

Objetivo: Descrever a prevalência de estressores do trabalho doméstico não remunerado (TDNR) e da sobrecarga doméstica, com ênfase nas diferenças de gênero. **Métodos:** Estudo transversal de base domiciliar, com moradores ≥ 15 anos de idade, de Feira de Santana, Bahia. Os estressores do TDNR, avaliados pelo modelo desequilíbrio esforço-recompensa no trabalho doméstico e familiar (DER-doméstico), e a sobrecarga doméstica foram estratificados por gênero. **Resultados:** Participaram 3.622 indivíduos, sendo 70,2% mulheres. A prevalência de alta sobrecarga doméstica foi 34,4% e de alto DER-doméstico, 34,0%, ambas maiores entre mulheres. A alta sobrecarga doméstica, em ambos os gêneros, associou-se a: baixa renda, cuidar de crianças, fazer pequenos consertos, compras, planejar a organização da casa, comprometimento excessivo com o TDNR e não ser chefe de família. Apenas entre as mulheres, foram associados à alta sobrecarga doméstica: menor idade, ter parceiro, ter filhos, tempo dedicado às atividades domésticas e não compartilhar tarefas. Em homens, ter parceira, ter filhos e baixa escolaridade reduziu o desequilíbrio. Em mulheres, o alto DER-doméstico associou-se à menor idade e renda, trabalho remunerado, maior carga horária semanal, fazer pequenos consertos, cuidar de crianças e idosos. **Conclusões:** O TDNR incide desproporcionalmente sobre as mulheres jovens e de baixa renda.

Palavras-chave: Estresse Ocupacional; Trabalho Doméstico; Ambiente Domiciliar; Gênero; Saúde do Trabalhador.

Introduction

Despite advances in female participation in the labor market, women still face wage inequalities, occupy more precarious and subordinate jobs, and deal daily with the challenges of reconciling work and family. Reconciling work and family requires constant negotiation between the productive and reproductive spheres, since the domestic environment remains strongly marked by gender inequalities.

Historically and culturally, unpaid domestic work (UNDW) continues to be attributed to women¹. This responsibility stems from disparate gender relations based on a sexual division of labor^{2,3}, with an unequal distribution of activities, culminating in greater domestic overload and greater dedication to care work for women. It is mostly women who take on care work, housework, raising and caring for children, feeding, and household chores, in a private, invisible, and marginalized way of life, which contributes to maintaining patriarchal structures, negatively impacting women's physical and mental health^{1,4,5}.

The invisibility of reproductive work has been a fundamental strategy of the capitalist system⁶ to guarantee the reproduction of the workforce without paying for it or recognizing it as work in itself. In this way, UNDW, although indispensable to the maintenance of life and society, remains outside formal economic statistics^{6,7}. This omission reveals a limited view of the productive system, which disregards the essential role of care as a central component of economic dynamics, and contributes to the perpetuation of the idea that these activities have a merely "affective" value, intrinsic to women as a result of their gender identity, and less valuable than formally recognized productive work, generally carried out by men.

In this context, the recent approval of the National Care Policy⁸ in Brazil represents a significant step forward, since by institutionally recognizing the centrality of care for society and the economy, it signals a change in the state's outlook, paving the way for the recognition, redistribution, and valorization of the work done by women, especially in the domestic and family spheres. In conjunction with the approval of this policy, there has been an upsurge in the crisis of care in today's capitalism, with the following central elements: the insertion of women into the labor market, accompanied by an increase in their educational levels; changes in family patterns with a decrease in the number of children, women taking over as heads of households, an aging population^{7,9} and also the COVID-19 pandemic which has made the role of the UNDW visible, highlighting its indispensability in sustaining daily life and maintaining the workforce^{10,11}.

During the pandemic, isolation measures reordered social and family organization. Activities that had previously been partially outsourced were now carried out entirely in the home^{11,12}. The overload generated fell predominantly on women, intensifying care demands, negatively impacting women's mental health and potentiating work-family conflicts, since paid work was redirected to the home and the reconciliation of home-office and household activities was severely intensified¹⁰⁻¹².

All these elements have reignited the debate on domestic work^{1,8,13}, by highlighting routine and repetitive demands, the responsibilities involved in caring for others and their potential sources of stress as they demand time, physical, psychological, and emotional load, degrees of responsibility and effort.

To assess the sources of stress in the UNDW, Sperlich et al.¹⁴ developed a measurement instrument, based on the effort-reward imbalance model proposed by Siegrist¹⁵, which evaluates stressors resulting from the imbalance between the effort required to perform work and the rewards received.

Similarly to the ERI model, stressors in domestic and family work are present depending on the relationship established between effort and reward. Situations of imbalance (the effort is not matched by the rewards received) trigger stress and illness, what is called the Effort-Reward Imbalance in domestic and family work (ERI-domestic)^{1,5}.

Domestic overload evaluates another dimension related to UNDW, involving an assessment of the activities carried out and the degree of responsibility involved in carrying them out. The activities include cooking, washing, cleaning, and ironing, assessing the degree of responsibility involved, weighted by the number of people in the house.

Considering that the sexual division of labor imposes a disproportionate burden on women, while exempting men from more equitable participation, resulting in different exposure to sources of tension and pressure, the aim of this study is to describe the prevalence of stressors of UNDW and domestic overload, with an emphasis on gender differences.

Methods

Study design and context

This is a cross-sectional study conducted between May 2022 and July 2023, linked to the research project “*Vigilância em Saúde Mental e Trabalho: uma coorte da população de Feira de Santana-BA* (Mental Health and Work Surveillance: a cohort of the population of Feira de Santana - Bahia)”. The study municipality is located 108 kilometers from Salvador, the capital of Bahia. The city is the second most populous in the state, with an estimated population of 616,272 people in 2022¹⁶, with intense population growth, boosted by its geographical position as a road junction and an important highway axis in the country, responsible for intense migration. The proportion of employed people in relation to the total population was 22.8%¹⁶, indicating that a significant part of the population is unemployed and/or in informal employment.

Study size

The sample size was calculated using OpenEpi software (<https://www.openepi.com>). We considered the urban population of Feira de Santana, according to data from the Brazilian Institute of Geography and Statistics (IBGE)¹⁶, estimated at 620,000 inhabitants, prevalence of ERI-domestic of 33.7%¹, sampling error of 3%, 95% confidence interval, obtaining a sample of 952 individuals. Assuming refusals and losses of around 20%, the minimum sample size was set at 1,143 individuals and sample weights were calculated. As a complex sampling procedure, a design effect (*deff*) equal to 2 was applied to compensate for the loss of precision resulting from the structure of the sampling plan. Thus, the minimum estimated sample size was 2,286 participants. In the end, the sample consisted of 3,872 individuals. Of these, self-declared indigenous and yellow participants were excluded, due to the low representativeness of these groups in the sample ($n = 250$). Thus, the analysis focused on a total of 3,622 individuals.

Participants

Sampling was random, by conglomerates, stratified based on geographical area of the municipality, according to IBGE data¹⁶, defined in three successive stages: subdistrict, census tracts, and streets considering: a) determining the representative percentage of the population per subdistrict; b) defining the percentage of individuals per subdistrict; c) listing and randomly selecting the census tracts belonging to each subdistrict; d) randomly selecting the streets to be included/selected census tract; e) including all households in the streets drawn; f) individuals aged 15 or over living in the households drawn were eligible for the sample.

Data collection

Data collection occurred through face-to-face interviews in the households of participants. A team of interviewers, previously selected and trained, carried out the interviews.

The study used two instruments: a household questionnaire with general data on the household and its residents; and an individual questionnaire - applied to each eligible resident - of a multidimensional nature, from which, for this study, data was extracted on: sociodemographic characteristics, UNDW, and paid work.

Variables

UNDW stressors were assessed using the RI-domestic scale¹⁴ which was translated, adapted and validated in the Brazilian context⁵. This scale includes 23 items, which assess three dimensions: effort (eight items), reward (11 items), and excessive commitment to housework (four items). The answers are measured on a Likert scale (ranging from 1 - strongly disagree to 4 - strongly agree). The imbalance scores were estimated using the equation: $(\text{Effort})/(\text{Reward} \times \text{correction factor})$. The correction factor is applied according to the difference in the items of the dimensions involved. The ERI-domestic was classified as low ($< 3\text{rd}$ tertile) and high ($\geq 3\text{rd}$ tertile).

The domestic overload is an indicator originally proposed by Tierney, Romito, and Messing¹⁷ and adapted to the Brazilian context by Aquino¹⁸. Its calculation is based on the sum of four basic household tasks (washing, ironing, cleaning, cooking), multiplied by the number of residents in the household (M), excluding the interviewee^{4,18}.

Each task is assessed using a likert scale, ranging from 0 (does not do) to 4 (does entirely). The total domestic overload score is obtained from the formula: $\text{DO} = (\text{washing} + \text{ironing} + \text{cleaning} + \text{cooking}) \times (M - 1)^4$. The scores were then dichotomized into two levels of burden of domestic overload: low ($< 3\text{rd}$ tertile) and high ($\geq 3\text{rd}$ tertile).

The sociodemographic and economic characterization included: gender (men, women), age group (< 40 years, ≥ 40 years), marital status (without a partner, with a partner), race/color (white, brown, brown), education (high - high school or more, low - up to complete elementary school), *per capita* income (< 1 , ≥ 1 minimum wage), status in the family (non-head, head), and children (yes, no). Characteristics of paid work were also taken into account: employment (yes, no), number of days worked per week (≤ 5 , > 5), and weekly working hours (≤ 40 , > 40) and of UNDW: caring for children up to 10 years old (yes, no), caring for the elderly or people with disabilities (yes, no), carrying out small tasks (yes, no), shopping (yes, no), household planning (yes, no), and weekly hours dedicated (≤ 20 , > 20). Moreover, the receipt of help (yes, no) and overcommitment to domestic activities (component dimension of the ERI-domestic scale (yes, no) were assessed.

Bias control

To ensure the standardized data collection and reduce information bias, interviewers received training, and standardized instruments, adapted and validated for the Brazilian context, were used. To reduce possible losses and minimize selection bias, each household was visited up to three times. Data analysis considered the complex sampling design.

Data analysis

The analysis used the Software for Statistics and Data Science (Stata[®]) version 15.0, applying the survey module to account for complex sampling weights.

The descriptive analysis characterized the sample, calculating absolute and relative frequencies and their 95% confidence intervals (CI). The distribution profile of occupational stressors and DS was calculated considering sociodemographic characteristics, UNDW, and paid work. The frequencies of ERI-domestic and domestic overload in each group of interest were estimated, with their respective 95%CI. Pearson's chi-square test with Rao-Scott correction, with statistical significance of 5%, was applied.

Ethical considerations

The research project was approved by the Research Ethics Committee of the Universidade Estadual de Feira de Santana (CEP-UEFS), CAAE No. 74792617.4.0000.0053, on June 6, 2020. All participants signed a Free and Informed Consent Form (FICF) or a Free and Informed Assent Form (FASF), if were aged under 18 years.

Results

In the sample ($n = 3,622$), the majority were women (70.2%), with over 40 years of age (70.1%), without a partner (57.5%), brown (52.1%), with low levels of schooling (74.3%), and an income of up to one minimum wage (80.1%). More than half of the people reported being heads of household (54.1%) and the majority had children (76.9%). Just over a third (38.3%) reported having a paid job, of which 51.6% worked six or seven days a week and 34.0% worked more than 40 hours a week (data not shown in tables).

The most frequent household activities were: doing the grocery/shopping for the house (78.7%), planning/organizing household chores (74.5%), doing small repairs (44.3%), and looking after children up to 10 years old (26.5%). Dedication of 20 hours a week or more to domestic activities was reported by 41.4%. More than half reported not receiving help with housework (60.8%) and excessive commitment to housework was observed in 36.3% (data not shown in tables).

The prevalence of high domestic overload was 34.4%, higher among women (44.9% versus 8.8% for men; $p < 0.001$). The crude analysis stratified by gender showed higher frequencies of high domestic overload among women in all the strata analyzed (Tables 1 and 2).

Among men, high domestic overload was more frequent among those with lower income (13.7%, $p < 0.001$), who were not heads of household (12.3%, $p = 0.016$), who looked after children up to 10 years old (18.7%, $p < 0.001$), did minor repairs (11.3%, $p = 0.031$), did grocery shopping (12.1%, $p < 0.001$), planned and organized household chores (15.8%, $p < 0.001$), and were overcommitted to housework (22.1%, $p = 0.023$) (Tables 1 and 2).

Among women, higher frequencies of domestic overload were observed among younger women (57.8%; $p < 0.001$), with partners (59.1%, $p < 0.001$), income of up to one minimum wage (51.7%, $p < 0.001$), who were not the head of the household (55.3%, $p < 0.001$), and had children (48.9%, $p < 0.001$) (Table 1).

Table 1 Distribution of high domestic overload, stratified by gender, according to sociodemographic and economic characteristics. Feira de Santana, Bahia, Brazil, 2023 ($n = 3,622$)

Variable	High domestic overload					
	Men			Women		
	n	% (95%CI)	p-value*	n	% (95%CI)	p-value*
Age group			0.345			<0.001
< 40 years	49	10.5 (6.6; 16.3)		405	57.8 (52.1; 63.3)	
≥ 40 years	60	7.7 (5.3; 11.2)		733	40.0 (35.8; 44.3)	
Marital status			0.120			<0.001
No partner	61	10.1 (7.5; 13.5)		539	35.7 (31.4; 40.2)	
With partner	48	7.3 (5.0; 10.7)		594	59.1 (54.2; 63.8)	
Race/skin color			0.108			0.096
White	12	4.2 (2.0; 8.4)		121	38.9 (28.1 ; 47.7)	
Brown	55	8.8 (5.9; 13.0)		573	43.2 (38.8; 47.7)	
Black	42	11.2 (7.4; 16.7)		444	50.3 (45.8; 54.8)	

Continue

Continuation					
Schooling			0.468		0.315
High	37	10.2 (6.0; 16.8)	277	47.6 (41.4; 53.8)	
Low	72	8.1 (5.8; 11.1)	856	44.0 (40.3; 47.8)	
Monthly per capita income			<0.001		<0.001
≥ 1 minimum wage	6	1.4 (0.5; 3.4)	66	19.3 (13.0; 27.7)	
< 1 minimum wage	90	13.7 (10.1; 18.3)	895	51.7 (48.0; 55.3)	
Status in the family			0.016		<0.001
Non-head	54	12.3 (8.3; 17.7)	697	55.3 (51.4; 59.1)	
Head	55	6.6 (4.6; 9.5)	439	34.7 (29.8; 40.0)	
Have children			0.826		<0.001
No	38	9.2 (5.5; 15.0)	150	28.6 (23.1; 34.9)	
Yes	71	8.5 (5.9; 12.1)	988	48.9 (44.8; 53.0)	

*p-value obtained by Pearson's Chi-Square test with Rao-Scott correction.

CI: Confidence interval

Source: Authors' own elaboration.

Regarding domestic activities, looking after children up to 10 years old (74.0%, $p < 0.001$), doing minor repairs (51.5%, $p = 0.002$), doing the market/grocery shopping (48.1%, $p < 0.001$), planning and organizing household chores (48.4%, $p < 0.001$), dedicating more than 20 hours a week to domestic activities (52.3%, $p = 0.006$), not receiving help (49.4%, $p = 0.001$), and excessive commitment to housework (57.6%, $p < 0.001$) were statistically associated to high domestic overload (**Table 2**).

Table 2 Distribution of high domestic overload, stratified by gender, according to characteristics of unpaid and paid domestic work. Feira de Santana, Bahia, Brazil, 2023 (n = 3,622)

Variable	High domestic overload					
	Men			Women		
	n	% (95%CI)	p-value*	n	% (95%CI)	p-value*
Characteristics of paid work						
Paid work			0.437			0.532
Yes	66	9.6 (6.7; 13.6)		355	46.1 (40.5; 51.9)	
No	42	7.6 4.8; 11.8)		759	43.9 (39.9; 48.0)	
Days worked per week			0.552			0.064
≤ 5 days	32	10.9 (6.5; 17.8)		177	52.0 (43.0; 60.9)	
6 or 7 days	32	8.8 (5.3; 14.5)		141	37.6 (28.7; 47.4)	

Continue

Continuation					
Weekly workload			0.179		0.315
≤ 40 hours	40	11.3 (7.3; 17.2)	222	47.1 (39.3; 55.1)	
> 40 hours	23	6.9 (3.7; 12.5)	93	41.1 (33.3; 49.4)	
Characteristics of unpaid domestic work					
Caring for children up to 10 years old			<0.001		<0.001
No	64	6.9 (5.1; 9.5)	555	32.4 (29.1; 35.9)	
Yes	45	18.7 (12.9; 26.3)	580	74.0 (68.1; 79.1)	
Caring for the elderly, sick, or in need			0.894		0.059
No	92	8.9 (6.7; 11.7)	925	43.4 (39.6; 47.3)	
Yes	17	8.4 (3.9; 17.4)	211	53.2 (44.2; 62.1)	
Doing minor repairs			0.031		0.002
No	16	4.6 (2.1; 9.9)	650	41.1 (37.4; 44.9)	
Yes	93	11.3 (8.4; 15.2)	488	51.5 (45.8; 57.2)	
Going to the market/ grocery shopping			<0.001		<0.001
No	18	3.5 (2.1; 5.6)	88	23.8 (17.7; 31.2)	
Yes	91	12.1 (8.9; 16.2)	1.049	48.1 (44.7; 51.5)	
Planning and organizing household chores			<0.001		<0.001
No	22	2.7 (1.7; 4.0)	66	21.1 (15.5; 28.1)	
Yes	87	15.8 (11.7; 20.9)	1.069	48.4 (44.8; 51.9)	
Weekly hours spent on domestic activities			0.982		0.006
≤ 20 hours	82	11.9 (8.9; 15.8)	493	42.2 (37.5; 47.0)	
> 20 hours	20	11.8 (5.5; 23.5)	619	52.3 (47.2; 57.4)	
Receives help with housework			0.718		0.011
Yes	30	10.2 (6.5; 15.8)	456	40.7 (35.9; 45.6)	
No	74	11.2 (8.2; 15.3)	675	49.4 (45.1; 53.7)	
Excessive commitment to housework			0.023		<0.001
No	80	10.1 (7.3; 14.0)	550	40.0 (35.3; 44.8)	
Yes	25	22.1 (12.6; 35.8)	586	57.6 (53.1; 62.0)	

*p-value obtained by Pearson's Chi-Square test with Rao-Scott correction.

CI: Confidence interval

Source: Authors' own elaboration.

High ERI-domestic was present in 34.0% of the population, with a higher prevalence ($p < 0.001$) among women (41.5%) compared to men (14.2%). Among women, higher prevalences were observed in all the categories of the analyzed variables (Tables 3 and 4).

Table 3 Distribution of effort/reward imbalance in domestic and family work (ERI-Domestic) stratified by gender, according to sociodemographic and economic characteristics. Feira de Santana, Bahia, Brazil, 2023 (n = 2,926)

Variable	High ERI-Domestic					
	Men			Women		
	n	% (95%CI)	p-value*	n	% (95%CI)	p-value*
Age group			0.076			0.017
< 40 years old	38	19.1 (11.7; 29.7)		292	47.0 (40.5; 53.7)	
≥ 40 years	52	10.9 (7.3; 15.9)		612	39.3 (35.3; 43.6)	
Marital status			0.001			0.609
No partner	64	20.8 (14.5; 29.0)		516	40.8 (35.7; 46.2)	
With partner	26	6.1 (3.5; 10.4)		388	42.4 (37.6; 47.5)	
Race/skin color			0.709			0.433
White	12	18.3 (8.1; 36.3)		107	42.8 (34.1; 52.1)	
Brown	42	13.5 (8.9;20.1)		467	39.5 (34.7; 44.6)	
Black	36	13.7 (8.6;21.0)		330	44.2 (37.3; 51.3)	
Schooling			<0.001			0.233
High	38	25.3 (17.7;34.8)		215	38.3 (32.1; 45.0)	
Low	52	8.3 (5.5;12.2)		685	42.6 (38.0; 47.3)	
Monthly per capita income			0.289			0.005
≥ 1 minimum wage	25	18.5 (11.2;28.9)		81	29.0 (20.9; 38.8)	
< 1 minimum wage	53	13.3 (8.7;19.9)		672	44.5 (39.5; 49.7)	
Status in the family			0.372			0.073
Non-head	31	17.4 (9.3;30.2)		493	44.9 (39.7; 50.3)	
Head	58	12.3 (8.4;17.7)		410	38.1 (32.4; 44.1)	
Have children			0.003			0.324
No	43	22.1 (15.2;31.0)		165	37.8 (30.5; 45.7)	
Yes	47	9.5 (6.1;14.7)		739	42.4 (37.6; 47.3)	

*p-value obtained by Pearson's Chi-Square test with Rao-Scott correction.

CI: Confidence interval

Source: Authors' own elaboration.

Table 4 Distribution of effort/reward imbalance in domestic and family work (ERI-Domestic) stratified by gender, according to characteristics of unpaid and paid domestic work. Feira de Santana, Bahia, Brazil, 2023 (n = 2,926)

Variable	High ERI-Domestic					
	Men			Women		
	n	% (95%CI)	p-value*	n	% (95%CI)	p-value*
Characteristics of paid work						
Paid work			0.053			<0.001
Yes	65	17.9 (12.4;25.2)		351	52.4 (46.2; 58.8)	
No	24	9.0 (5.0;16.0)		538	36.2 (31.6; 41.1)	
Days worked per week			0.330			0.136
≤ 5 days	28	14.7 (9.2;22.8)		161	48.8 (39.3; 58.3)	
6 or 7 days	35	20.2 (12.5;31.0)		166	59.5 (49.4; 68.8)	
Weekly working hours			0.215			0.019
≤ 40 hours	37	14.7 (9.5;22.0)		207	48.8 (40.7; 56.9)	
> 40 hours	24	22.2 (12.5;36.4)		115	63.0 (53.1; 72.0)	
Characteristics of unpaid domestic work						
Caring for children up to 10 years old			0.416			<0.001
No	70	14.9 (10.3;21.1)		522	36.7 (32.6; 41.0)	
Yes	19	11.2 (6.4;18.9)		382	51.7 (44.2; 59.2)	
Caring for the elderly, sick, or in need			0.255			<0.001
No	74	12.7 (9.1;17.3)		704	37.4 (33.1; 41.9)	
Yes	15	22.9 (8.7;47.9)		200	62.7 (52.8; 71.6)	
Doing minor repairs			0.335			0.042
No	19	19.6 (9.7;35.6)		519	38.7 (34.1; 43.6)	
Yes	71	13.1 (8.9;19.0)		385	45.9 (40.0; 52.1)	
Going to the market/ grocery shopping			0.499			0.579
No	7	10.5 (3.5;27.7)		70	38.2 (27.3; 50.4)	
Yes	83	15.0 (11.0;20.2)		833	41.8 (37.4; 46.3)	
Planning and organizing household chores			0.014			<0.001
No	26	7.7 (4.7;12.4)		55	26.0 (20.3; 32.5)	
Yes	64	17.9 (12.2;25.6)		848	42.9 (38.7; 47.3)	

Continue

Continuation					
Weekly hours spent on domestic activities			0.345		0.137
≤ 20 hours	68	13.7 (8.8;20.7)	400	38.0 (32.2; 44.3)	
> 20 hours	21	20.3 (11.3;33.7)	476	44.0 (38.8; 49.4)	
Receives help with housework			0.158		0.576
Yes	32	20.0 (11.2;33.1)	400	42.7 (36.6; 49.1)	
No	57	12.2 (8.4;17.4)	496	40.5 (35.2; 45.9)	
Overcommitment			<0.001		<0.001
No	47	9.7 (6.4;14.4)	280	23.7 (19.8; 28.3)	
Yes	43	42.2 (30.1;55.3)	623	66.0 (60.8; 70.8)	

*p-value obtained by Pearson's Chi-Square test with Rao-Scott correction.

CI: Confidence interval

Source: Authors' own elaboration.

When assessing the distribution of high ERI-Domestic among men, the occurrence of imbalance was significantly higher among those without a partner (20.8%, $p = 0.001$), with a high level of schooling (25.3%, $p < 0.001$), without children (22.1%, $p = 0.003$), who planned and organized household chores (17.9%, $p = 0.014$), and reported excessive commitment to housework (42.2%, $p < 0.001$) (**Tables 3 and 4**).

Among women, ERI-domestic was more prevalent among young people aged under 40 (47.0%, $p = 0.017$), with an income of up to one minimum wage (44.5%, $p = 0.005$), with paid work (52.4%, $p < 0.001$), and working more than 40 hours a week (63.0%, $p < 0.001$). There was a predominance of high ERI-domestic among those who took care of children up to 10 years old (51.7%, $p < 0.001$), the elderly, the sick, or those with special needs (62.7%, $p < 0.001$), did minor repairs (45.9%, $p = 0.042$), planned and organized household chores (42.9%, $p < 0.001$), and were overcommitted to housework (66.0%, $p < 0.001$) (**Tables 3 and 4**).

The analysis stratified by gender revealed differences in the frequency of discharges between men and women, reflecting persistent inequalities in the division of unpaid work. For both men and women, the frequency of discharges was significantly higher among those with an income of less than one minimum wage, who were not the head of the family, who looked after children, and carried out small repairs and activities such as market shopping. Among women, there were higher frequencies of domestic overload among younger women, those with children, those with partners, those who did not receive help with domestic demands and those who spent more time on domestic activities (**Table 5**).

Table 5 Summary of the comparative analysis of variables with significance for high domestic overload (DO) and high effort/reward imbalance in domestic and family work (ERI-Domestic), stratified by gender. Feira de Santana, Bahia, Brazil, 2023

Variable	Variable Total		Men		Women	
	High DO	High ERI	High DO	High ERI	High DO	High ERI
Age group	< 40 years	--	--	--	< 40 years	< 40 years
Presence of partner	With partner	--	--	Without partner	With partner	--
Race/color	--	--	--	--	--	--
Schooling	--	--	--	High Schooling	--	--
Income	Low	Low	Low	--	Low	Low
Status of head in the family	Non-head	Non-head	Non-head	--	Non-head	--
Presence of children	Having children	--	--	Not having children	Having children	--
Having paid work	Yes	Yes	--	--	--	Yes
Working days/week	6 or 7 days	6 or 7 days	--	--	--	--
Weekly workload	> 40 hours	> 40 hours	--	--	--	> 40 hours
Caring for children up to 10 years old	Caring	Caring	Caring	--	Caring	Caring
Caring for the elderly, sick,	--	Caring	--	--	--	Caring
Doing minor repairs	--	--	Yes	--	Yes	Yes
Shopping	Yes	Yes	Yes	--	Yes	--
Planning/organizing household chores	Yes	Yes	Yes	Yes	Yes	Yes
Weekly workload in domestic work	> 20 hours	> 20 hours	--	--	> 20 hours	--
Receives help with housework	--	--	--	--	No	--
Overcommitment	High	High	High	High	High	High

Source: Authors' own elaboration.

As for high ERI-domestic, the data analyzed reveals marked gender differences. For men, the frequency of high ERI-domestic was higher among those without a partner, without children and with a high level of education. For women, it was higher among those who were younger, had a lower per capita income, paid working hours and weekly workload in productive work, responsibility for looking after children and looking after the elderly/people who were ill or had special needs and carrying out minor repairs (**Table 5**).

Discussion

High domestic overload and high ERI-Domestic were higher among younger, low-income women, reinforcing a socio-sexual division of labor in which sex/gender and social conditions structure work relationships. This leads to patterns of inequality, perpetuating a model of patriarchal family organization, with a social system that links gender stereotypes to an unequal distribution of domestic work, as already described in the literature^{1,4,19,20}.

To summarize, some of the study findings are worth highlighting:

- In the population studied, differences were observed in the frequency of high domestic overload and high ERI-domestic according to sociodemographic characteristics, paid work, as well as household chores and/or care involving the family.
- Among men, the frequency of high domestic overload and high ERI was higher in two groups: those who reported planning and organizing household chores and those who showed excessive commitment to domestic demands.
- Among women, however, the factors were both sociodemographic (being young and on a low income) and UNDW (doing small repairs, looking after children, planning and organizing household chores, and being highly overcommitted to these tasks).

Individuals with lower incomes had higher frequencies of high domestic overload and high ERI-domestic, a finding consistent with other studies that relate low income with the impossibility of outsourcing household chores^{4,13,21}. This restriction intensifies the stressors of reproductive work: greater workload, longer working hours, less appreciation and recognition, increased occupational stressors, especially among women^{13,22,23}.

There was a higher prevalence of domestic overload among people who were not heads of household, in both genders. This finding can be explained, in part, by the fact that individuals who are not heads of household tend to be less active in the formal labor market or have more precarious occupations, increasing their availability of time for domestic demands. In other words, the position of head of the family is associated with the role of provider and decision-maker in the domestic context, which often increases the social legitimacy for not doing household chores^{4,17,18,21}. Although this dynamic varies according to gender, class and family organization, it has a recurring pattern: the status of provider functions as a symbolic and practical justification for the unequal division of domestic work. This configuration reinforces the hypothesis that domestic overload reflects gender inequalities and power asymmetries in family relationships^{2,24}.

Empirical evidence^{4,13,21} corroborates this pattern, indicating that not being head of the family is associated with greater involvement in domestic activities, due to less negotiating power and greater economic vulnerability. In the Brazilian context, data from the 2024 National Household Sample Survey (PNAD)¹³ show that the average weekly hours dedicated to domestic and care tasks is significantly higher among people who are unemployed or not in the labor market - 10 hours more for women - when compared to those who are employed (17.8 hours for women and 11 hours for men)¹³.

Men with a higher level of schooling had a higher ERI-domestic, reinforcing studies that indicate how much education positively influences the male attitude towards household chores^{20,25-27}. For men, the lower the level of schooling, the lower the participation in housework, and among women the opposite occurs: lower participation in housework as the level of schooling increases^{9,21,25}. A study carried out in Germany²⁸ points out that women's schooling is associated with stress related to low rewards.

In this perspective, the 2024 PNAD¹³ revealed that women with more schooling spent an average of 22.6 hours a week on household chores, lower than the average of 27.8 hours observed among women with less schooling, suggesting that schooling is a factor in mitigating domestic overload.

This trend may reflect several interconnected dynamics: women with more schooling tend to have better opportunities for paid employment, reducing their time spent on housework and/or making it possible to hire external help^{13,21,23}; furthermore, they may have greater negotiating power in the domestic arrangement, enabling a more equitable division or delegation of tasks. It should be noted, therefore, that this reduction in domestic time does not necessarily reflect greater gender equality within the family, but may indicate that women with higher incomes and education outsource part of the domestic work, transferring the burden to women with lower education or income.

With regard to age, higher domestic overload and ERI-domestic were observed, with statistical significance, only among younger women (<40 years), especially between the ages of 25 and 39, due to the multiple simultaneous demands of this phase of life: career, young children and married life, thus representing the peak phase of the accumulation of social roles^{13,21,29}.

During this phase, it is common to internalize cultural expectations (“good mother”, “ideal woman”), particularly affected by an overlap of demands: consolidation of professional life, family formation, motherhood, and home maintenance; leading many young women to reproduce traditional patterns of total dedication, leading to greater commitment to family care and risk of psychological distress^{1,14,26,30}.

The presence of children contributed significantly to the high domestic overload among women, while for men there was a reduction in the ERI-domestic due to the perception of recognition of the children (merit, affection) and/or division of household chores with them^{4,21,26}. Couples with children have higher and less gender-equal workloads, indicating a disparity in the overload and time dedicated by mothers³¹. Some studies even point to the reproduction of the sexual division of UNDW from an early age, with girls aged 10 to 14^{8,13,25}.

Caring for children increases the volume of tasks assessed in the domestic overload indicator and confirms a consistent relationship for high domestic overload in both genders and high ERI-domestic among women^{1,4,12,18}. It is known that the presence of children increases the time spent on domestic work, and the impact on women’s reproductive hours is double that found for men^{13,21}; in line with studies^{12,22,25,26,31} which show that children not only increase gender inequalities, but also reduce female participation in the labor market^{25,29}.

Caring for the elderly, sick or people with special needs has also increased the high domestic overload among women, related to the availability of time, demanding more reproductive work, significantly intensifying the domestic workload. The absence or precariousness of public care services means that the responsibility falls on women - often black women - or even children and adolescents, perpetuating gender inequality⁸.

The presence of partners revealed a difference: the presence of high domestic overload is higher among women with partners, while men with partners have lower ERI-domestic - reflecting patterns of persistent inequalities in the division of domestic labor, as observed in other studies^{8,13,21,23} that signal this relationship, especially in heteronormative contexts^{27,32}.

Marriage tends to act as an enhancer of overload and occupational stressors for women, while for men it has a protective effect^{21,23,26}. The amount of housework done by men is only equal to that observed among women when the man lives alone^{21,25}.

Despite the changes in family models and the growing appreciation of active fatherhood, male participation is still limited, and the lack of an equitable division of household tasks emerges as a determining factor for the high domestic overload faced by women, so that not sharing these responsibilities was associated with high domestic overload. Data in the literature^{4,23} show that women with domestic workers had a reduced burden, up to 45.5%⁴.

This lack of equitable distribution of domestic work and the amount of time (in terms of workload) dedicated to UNDW has only been seen among women. Various studies^{13,33} point to this disparity, confirming gender inequality in the distribution of reproductive work, such as data from the latest PNAD (2024), in which women spent almost twice as much time on household chores as men (21.3 hours compared to 11.7 hours)¹³, a difference that also persists even among couples in which both work full-time.

The results converge on the understanding that the greater overload among women, the result of family organization and dynamics, added to contemporary challenges, result in a difficult work-family balance, with greater exposure to occupational stressors^{1,5,14,30}. Everyday activities, such as grocery shopping and minor repairs, have been found, corroborating similar studies that associate these indispensable demands for running the household with consequent overloads^{18,31,34}.

Although the literature highlights the fact that male participation is more focused on activities related to the role of provider/organizer of services, as revealed by the 2024 PNAD¹³, also highlighting that men only surpass women in small repairs or household maintenance¹³, the results of this study nevertheless showed a significant difference between the genders, confirming the gulf in the division of household tasks between men and women.

The planning and organization of household chores, present in 74.5% of the study population, were positively associated with high domestic overload and high ERI-domestic in both sexes. These findings, in line with previous research^{4,35}, indicate that these activities, because they involve responsibility, decisions, and time management, intensify the conflict between work and family and contribute to overlapping working hours and an increase in occupational stressors.

Another variable that showed an increase in the prevalence of high domestic overload and high ERI-domestic in men and women was excessive commitment to domestic work, suggesting that intensified involvement with these demands is related to higher levels of overload, corroborating studies that link not only domestic overload or ERI-domestic, but also mental illness^{1,14,30,36,37}. It should be borne in mind that even in cases where there is a more equal division of tasks, women often remain responsible for planning and managing household chores, while men mostly take on the execution. This additional mental burden contributes significantly to overload and impacts on women's health and well-being.

This component is one of the dimensions assessed in the ERI-domestic, measured using items that reflect the level of involvement and commitment to domestic and family tasks (intrinsic effort), assessing how difficult people find it to disconnect from their obligations. This dimension supports the hypothesis that people with greater commitment tend to experience more intense imbalances between effort and reward, contributing to illness^{1,5,14,36,37}, especially among women, who have a high degree of emotional involvement and sense of obligation with household chores, culminating in higher levels of emotional overload, exhaustion, psychological distress and somatic mental disorders^{1,4,14,30,35}.

Excessive involvement in domestic work, encompassing physical, mental, and cognitive tasks, is a major burden for many women and is reflected in negative mental health outcomes^{1,4,38}. A recent study³⁸ points out that, in addition to the greater workload being related to symptoms and diagnoses of depression among women (31.2% and 10.5%, respectively), the stress resulting from domestic work is shown to be the main factor in mental illness.

In other words, the “mental work” of planning, anticipating, organizing tasks, delegating responsibilities, and making sure the house runs smoothly reveals a gender disparity, emotionally burdening women and reinforcing the invisible but persistent impact on their well-being, increasing the risk of mental illness.

Two other variables, paid work and weekly workload (> 40 hours), maintained a strong association with high ERI-domestic only for women, corroborating the impact of the double working day on women^{25,37,39,40}.

As well as being one of the main expressions of gender inequality in the world of work, the double working day is characterized by an accumulation that has been associated with high levels of physical, emotional, and mental overload - an increase in depressive symptoms, anxiety, feelings of chronic exhaustion, and mental illness among women; These repercussions have even prompted interest in studies and the validation of analytical tools that take into account the total workload imposed on female populations^{1,14,30,37,39}.

This fact also emerges as a limitation for studies on UNDW, as they still face methodological and analytical restrictions for a broader and deeper understanding of the phenomenon. One of the main difficulties lies in the measurement of domestic and care activities; the use of the ERI-domestic is still incipient; moreover, the lack of

standardized and sensitive instruments to capture dimensions such as mental load and the simultaneity of tasks limits the understanding of the complexity of UDNW.

Cross-sectional studies capture data from moments in time or time intervals. There is a lack of longitudinal analyses to track the effects of UDNW over time. Although important advances have been made in the academic field, there is still a gap between scientific evidence and its effective incorporation into public policies aimed at the equitable redistribution of domestic and reproductive work.

Conclusion

The study showed that women, particularly younger and lower-income women, experience higher levels of domestic overload and effort–reward imbalance in UDNW, reflecting the persistence of gender inequalities and a structural model that devalues care, intersecting with gender, class, and age.

Paid work (professional) and unpaid work (domestic and care work) still reflect the most asymmetrical form of social devaluation, with a clear gender bias and reproductive hours that have much more significant effects on women than on men.

The scenario revealed by this study calls for a critical analysis of the place that domestic and care work occupies in contemporary social structures. The persistent inequality in the division of these tasks denounces the historical naturalization of care as a female responsibility and is not just a reflection of a resistant patriarchal culture, but a structural problem that compromises women's health, autonomy, and citizenship.

Furthermore, by addressing gender equality in the domestic sphere, the aim is not only to redistribute responsibilities and create a more balanced family dynamic, but above all to highlight that the National Care Policy⁸ represents a step forward in tackling gender inequalities, institutionally recognizing care work. It proposes a clear and balanced redistribution of responsibilities between the state, families, and the private sector, with the strengthening and expansion of public services to ease the burden on women. There is an urgent need to promote equity in the sexual division of labor through robust intersectoral policies, funding, and campaigns that combat gender stigmas.

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