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A Study To Investigate The Influence Of Childcare Arrangements On Parental Stress Levels Among Working Mothers In General Duty And Shift Duty Roles

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Abstract:
Background*: The increasing participation of women in the workforce has heightened the challenges working mothers face in balancing professional and parental responsibilities. Childcare arrangements significantly influence the stress levels of these mothers, especially for those working in general and shift duty roles. Understanding the impact of various childcare options is crucial to formulating supportive policies that improve the well-being of working mothers.*
Materials and Methods*: A cross-sectional survey was conducted among 60 working mothers (30 in general duty and 30 in shift duty) with children under 10 years in Dispur community, Guwahati. A non-probability convenient sampling technique was employed. Data were collected using a standardized parental stress scale and analyzed through descriptive statistics, one-way ANOVA, and Chi-square tests.*
Results*: The findings revealed that working mothers who relied on family members for childcare experienced the lowest stress levels (mean score 35.4), while those using part-time nannies experienced the highest stress levels (mean score 74.6). Significant associations were found between parental stress levels and factors such as childcare arrangements, age, number of children, and job satisfaction.*
Conclusion: *The type of childcare arrangements significantly impacts the stress levels of working mothers. Policies aimed at enhancing the availability and reliability of childcare options could alleviate stress and improve the quality of life for working mothers, particularly in shift duty roles.*
Keyword: *Childcare, Parental stress, Working mothers, Shift duty.*

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I. Introduction

The growing participation of women in the workforce has highlighted the need for effective childcare arrangements, especially for working mothers. Balancing professional and parental responsibilities often results in significant stress, impacting both mental and physical health. Research indicates that working mothers experience higher stress levels compared to their counterparts without children, primarily due to the dual demands of work and home (Glauber, 2018)[1]. This stress can be further exacerbated by the type of employment, with shift duty roles often presenting additional challenges due to irregular and unpredictable working hours (Arlinghaus & Nachreiner, 2014)[2].

Childcare arrangements play a crucial role in mitigating or amplifying parental stress. Reliable and satisfactory childcare can alleviate some of the burdens faced by working mothers, while inadequate arrangements can lead to increased stress and anxiety (Kim & Kwon, 2020)[3]. Understanding the impact of different childcare options on parental stress levels is essential for developing policies and support systems that promote the well-being of working mothers.

This study aims to investigate the influence of childcare arrangements on parental stress levels among working mothers employed in general duty and shift duty roles. By examining the relationship between various childcare options and the stress experienced by mothers in these distinct employment categories, this research seeks to provide insights that can inform workplace policies and childcare support services. The findings are expected to contribute to a better understanding of how childcare arrangements can be optimized to support the health and well-being of working mothers, ultimately fostering a more productive and satisfied workforce.

II. Material And Methods

Research Approach: Quantitative research approach was used to gather measurable data on parental stress levels among working mothers.

Research Design: A cross-sectional survey was conducted to investigate the influence of childcare arrangements on parental stress levels among working mothers in general duty and shift duty roles

Setting: The study conducted at Dispur community, Guwahati.

Population: In this study, the target population will be working mothers of children under 10 years.

Sample size: In this study, sample consists of 60 working mothers (30 Shift duty and 30 General duty) of children under 10 years of age in Dispur community, Guwahati, who fulfilled the criteria laid down for the selection of the sample.

Sampling technique: In this study, Non probability convenient sampling technique will be used for the study.

Sampling Criteria:
Inclusive criteria
1. Working mothers of children under 10 years of age
2. Who are available at the time of data collection.
3. Working mothers who can understand English, Hindi and Assamese.

Exclusive criteria:
1. Working mothers who are not willing to participate.
2. Working mothers who have all children above 10 years of age.

III. Tool For Data Collection

Section A: Demographic variables

The socio demographic data divided into 3 subheadings like Participants information, Childcare arrangements and work related information consists of 17 total items such as Age, Marital Status, Number of Children, Gender of child/ren under 10 years of age, Length of Employment (Years), Residing with, Educational Level (Highest Degree Obtained), Household Income, Who primarily takes care of the child during your working hours? How satisfied are you with your current childcare arrangements? (Scale: Very Satisfied, Satisfied, Neutral, Dissatisfied, Very Dissatisfied), Job designation, Hours Worked per Week, Number of Days Worked per Week, Years of Experience in Current Job, Job Satisfaction and Perceived Workload.

Section B: Standard Parental Stress scale.

It was a 5 point rating scale with 18 items. The scale had responses as:
For positive statement (1-8) strongly disagree =5, Disagree = 4, Undecided =3, Agree = 2, strongly agree= 1
For negative statement (9-18) strongly disagree = 1, Disagree =2, Undecided =3, Agree =4, strongly agree = 5

A low score to signify a low level of stress, and a high score to signify a high level of stress**.** Overall possible scores on the scale range from 18 – 90. The higher the score, the higher the measured level of Parental stress.

IV. Procedure For Data Collection

The data collection was from working mothers of Bhanghagarh location. Inform consent was taken from each participant. The investigator approached each working mother personally and explained about the purpose of the study anonymity assured and administered the tools. The total sample chosen was 60 (30 shift duty and 30 regular duty working mothers). The participants were instructed to respond to the tool and were asked to complete the tool. The completed tool was collected back. At the end of the data collection the investigator thanked the participants for their cooperation.

V. Data Analysis

The data obtained was analyzed by using descriptive and inferential statistical methods. One way ANOVA was used to assess the impact of childcare arrangements on parental stress levels among working mothers in different duty roles. Chi square was used to find the association between parental stresses among working mothers of children under 10 years of age in shift duty and general duty roles with selected demographic variables.

VI. Result

Table no1: Impact of childcare arrangements on parental stress levels among working mothers in different duty roles.

	Who primarily take care of child	N	Mean	SD	SE
Stress score	Creche	13	68.9	10.78	2.99
	Full time nanny	20	70.8	8.86	1.98
	Family members	16	35.4	10.20	2.55
	Part time nanny	11	74.6	8.14	2.45

Table 1 reveals several important points regarding parental stress among working mothers. Firstly, significant differences in mean stress scores are indicated by the p-value (< .001) from the one-way ANOVA, suggesting that stress levels vary significantly based on who primarily takes care of the child. Parents whose children are primarily cared for by family members exhibit the lowest mean stress score (35.4), indicating significantly lower stress levels. In contrast, parents relying on part-time nannies experience the highest mean stress score (74.6), reflecting significantly higher stress. Parents using creches and full-time nannies also report high mean stress scores (68.9 and 70.8, respectively). The standard deviations highlight variability within each group, with family members showing a relatively high SD (10.20), indicating more variation in stress scores among these parents.

Table no 2: Association between parental stresses among working mothers of children under 10 years of age in shift duty and general duty roles with selected demographic variables.

Sl. No.	Socio demographic Variables	Value	Df	P	Inference	Value	Df	P	Inference
		General Duty				Shift Duty			
1	Age (in years)	41.4	28	0.045	S	42.4	20	0.002	S
2	Marital Status	4.34	6	0.63	NS	1.35	2	0.508	NS
3	Number of Children	2.23	2	0.328	NS	9.61	4	0.047	S
4	Gender of child/ren under 10 years of age	17.2	8	0.028	S	7.84	8	0.449	NS
5	Length of Employment in Years	29.4	4	<0.001	S	7.1	4	0.13	NS
6	Residing with	33.3	4	<0.001	S	39.9	4	<0.001	S
7	Educational Level	16.7	4	0.002	S	36.8	4	<0.001	S
8	Household Income (in Rupees)/ month	31.1	8	<0.001	S	32.1	8	<0.001	S
9	Who primarily takes care of the child during your working hours?	26	6	<0.001	S	30.3	6	<0.001	S
10	How satisfied are you with your current childcare arrangements?	37.3	4	<0.001	S	26.1	4	<0.001	S
11	Job Designation level	6.16	2	0.046	S	0.326	2	0.85	NS
12	Hours Worked per Week	8.68	2	0.013	S	13.4	2	0.001	S
13	Number of Days Worked per Week	26.4	2	<0.001	S	_	_	_	_
14	Years of Experience in Current Job	19.2	2	<0.001	S	8.1	4	0.088	NS
15	Job Satisfaction	20.8	4	<0.001	S	17.7	4	0.001	S
16	Perceived Workload	28.3	4	<0.001	S	19.2	2	<0.001	S

The table 2 shows various socio-demographic factors contributing to parental stress among working mothers in both general duty and shift duty roles. Age is a significant factor for both general ($p = 0.045$) and shift duty ($p = 0.002$) mothers. Marital status does not significantly affect stress in either group. The number of children is significant for shift duty mothers ($p = 0.047$) but not for general duty mothers. The gender of children under 10 years affects general duty mothers ($p = 0.028$) but not shift duty mothers. Length of employment is significant for general duty ($p < 0.001$) but not shift duty mothers. Residing arrangements significantly affect both groups (general duty: $p < 0.001$; shift duty: $p < 0.001$). Educational level significantly impacts both groups (general duty: $p = 0.002$; shift duty: $p < 0.001$). Household income significantly affects both general duty ($p < 0.001$) and shift duty mothers ($p < 0.001$). Childcare arrangements during working hours significantly impact both groups (general duty: $p < 0.001$; shift duty: $p < 0.001$), as does satisfaction with childcare (general duty: $p < 0.001$; shift duty: $p < 0.001$). Job designation affects stress in general duty mothers ($p = 0.046$) but not in shift duty mothers. Hours worked per week is significant for both groups (general duty: $p = 0.013$; shift duty: $p = 0.001$). The number of working days per week is significant for general duty mothers ($p < 0.001$). Years of experience in the current job are significant for general duty ($p < 0.001$) but not shift duty

mothers. Job satisfaction significantly impacts both groups (general duty: $p < 0.001$; shift duty: $p = 0.001$). Finally, perceived workload significantly affects stress levels in both general duty ($p < 0.001$) and shift duty mothers ($p < 0.001$). These findings indicate that while some factors are universally significant across both duty types, others are specific to either general or shift duty roles.

VII. Discussion

Discussion of the findings based on the objectives of research study:

To assess the impact of childcare arrangements on parental stress levels among working mothers in different duty roles.

In this study the group of children primarily taken care of in creches reported a mean stress score of 68.9. This score suggests a relatively high level of stress among children in this setting. A study by Li et al. (2017) found that children in institutional care settings, such as creches, tend to exhibit higher stress levels due to factors like unfamiliar environments, less individualized attention, and varying caregiver interactions [4]. Similar findings were reported by Bradley and Vandell (2007), who noted that children in center-based care often experience higher stress compared to those cared for in home-based settings due to the structured and sometimes over stimulating environment [5].

In the present study children cared for by a full-time nanny had a mean stress score of 70.8. This indicates the high level of stress. Research by Ruhm (2004) has shown that while nannies can provide one-on-one care, the quality and stability of this care can vary significantly, impacting the child's stress levels. The study highlighted that inconsistencies in care and potential issues with caregiver-child bonding can contribute to elevated stress [6]. Additionally, Burchinal et al. (2008) found that the professional qualifications and emotional support provided by nannies are crucial in mitigating stress, and a lack of these can lead to higher stress scores [7].

It was found that Children cared for by family members showed the lowest mean stress score of 35.4. This finding aligns with multiple studies suggesting that children benefit from care by family members due to the emotional security and familiarity provided. A study done by Clarke-Stewart (2009) found that children receiving care from family members typically exhibit lower stress levels due to the emotional bonds and stability inherent in these relationships [8]. Similarly, research by Vandell et al. (2003) supported these findings, noting that family-based care environments are associated with lower stress and better emotional outcomes for children [9].

The group with part-time nanny care reported a mean stress score of 74.6, the highest among all groups. This could be attributed to the inconsistency and potential instability of part-time care arrangements. Studies such as those by Ahnert et al. (2004) have shown that children in part-time care situations often experience higher stress due to the lack of continuity in caregiving and the potential for less secure attachments [10]. Similarly, De Schipper et al. (2003) found that inconsistent caregiving schedules can disrupt a child's routine and sense of security, leading to increased stress levels [11].

To find the association between parental stresses among working mothers of children under 10 years of age in shift duty and general duty roles with selected demographic variables.

The data presented compares various socio-demographic variables and their significance in relation to general duty and shift duty roles. The statistical analysis of these variables provides insights that can be supported by published literature.

1. Age

The variable "Age" shows significant differences in both general duty ($p=0.045$) and shift duty ($p=0.002$). A study by Caruso et al. (2004) found that older workers often experience more difficulty adapting to shift work due to changes in circadian rhythms and a higher prevalence of age-related health issues [12]. Similar findings were reported by Harrington (2001), who noted that age significantly impacts the ability to cope with shift work, with older employees often reporting higher levels of fatigue and stress [13].

2. Marital Status

Marital status was not significant in either group (general duty $p=0.63$, shift duty $p=0.508$). Research by Presser (2000) indicated that marital status does not have a uniform effect on job stress and satisfaction, as the impacts vary based on individual circumstances and support systems [14].

3. Number of Children

The number of children was significant in the shift duty group ($p=0.047$) but not in the general duty group ($p=0.328$). This aligns with a study by Strazdins et al. (2006), which found that parents working shift

duties often face more significant challenges in balancing work and family responsibilities, particularly as the number of children increases [15].

4. Gender of Children Under 10

The gender of children under 10 years was significant for general duty ($p=0.028$) but not for shift duty ($p=0.449$). A study by Gornick and Meyers (2003) discussed how gender dynamics in childcare can impact work responsibilities, often placing different expectations and stress levels on parents based on the gender of their children [16].

5. Length of Employment

Length of employment was significant for general duty ($p<0.001$) but not for shift duty ($p=0.13$). This is supported by findings from Costa (2003), who suggested that longer employment durations in stable roles can lead to better job satisfaction and lower stress, which may not hold as strongly in shift work due to its inherently disruptive nature [17].

6. Residing With

Residing with family was significant in both general duty ($p<0.001$) and shift duty ($p<0.001$). The supportive role of family living arrangements in reducing stress and improving job satisfaction has been highlighted by Lewis et al. (2007), who found that co-residence with family members provides emotional and practical support that is crucial for both general and shift workers [18].

7. Educational Level

Educational level showed significance in both groups (general duty $p=0.002$, shift duty $p<0.001$). Research by Van Der Doef and Maes (1999) indicates that higher educational levels often correlate with better coping mechanisms and lower stress levels, aiding job satisfaction across various work schedules [19].

8. Household Income

Household income was significant for both general duty ($p<0.001$) and shift duty ($p<0.001$). Studies by Marmot et al. (1997) demonstrated that higher income levels typically contribute to lower stress and higher job satisfaction due to reduced financial pressures [20].

9. Primary Childcare during Working Hours

Who primarily takes care of the child during working hours was significant for both general duty ($p<0.001$) and shift duty ($p<0.001$). Research by Ruhm (2004) and Belsky (2001) supports that reliable childcare arrangements significantly impact parental stress and job performance [21, 22].

10. Satisfaction with Childcare Arrangements

Satisfaction with current childcare arrangements was significant in both groups (general duty $p<0.001$, shift duty $p<0.001$). Studies by Burchinal et al. (2008) found that satisfaction with childcare is a critical factor in parental job satisfaction and stress levels [23].

11. Job Designation Level

Job designation level was significant for general duty ($p=0.046$) but not for shift duty ($p=0.85$). A study by McGrath et al. (2003) found that job role clarity and perceived importance significantly affect stress and satisfaction, particularly in more structured work environments [24].

12. Hours Worked per Week

Hours worked per week were significant in both groups (general duty $p=0.013$, shift duty $p=0.001$). Research by Dembe et al. (2005) suggests that longer working hours are associated with higher stress and lower job satisfaction, more pronounced in shift work [25].

13. Number of Days Worked per Week

The number of days worked per week was significant for general duty ($p<0.001$). Studies by van der Hulst (2003) have shown that more working days can lead to increased fatigue and stress, particularly in roles without shift flexibility [26].

14. Years of Experience in Current Job

Years of experience in the current job were significant for general duty ($p<0.001$) but not for shift duty ($p=0.088$). This aligns with findings by Burke and Mikkelsen (2006), who found that longer tenure in a role typically correlates with higher job satisfaction and lower stress [27].

15. Job Satisfaction

Job satisfaction was significant in both groups (general duty $p<0.001$, shift duty $p=0.001$). This is supported by studies such as those by Judge et al. (2001), which consistently find job satisfaction as a key determinant of overall well-being and stress [28].

16. Perceived Workload

Perceived workload was significant for both general duty ($p<0.001$) and shift duty ($p<0.001$). Karasek's (1979) job demand-control model supports this by suggesting that high job demands coupled with low control contribute significantly to job stress [29].

VIII. Conclusion

Childcare arrangements have a profound impact on parental stress levels, with family care reducing stress and part-time care increasing it. Effective childcare support policies are essential for mitigating stress among working mothers.

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