



WOMEN DURING PREGNANCY; WORKPLACE FACTORS AND THEIR EFFECTS

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INTRODUCTION

Recent research in economics suggests that there are various decisive and vital periods for investment in children and pregnancy is likely to be among the most significant ones.^{1,2} It seems that although there has been extensive research on various other factors in economic literature such as maternal age, maternal education, family income, maternal smoking and prenatal care, maternal employment has for the most part been ignored.³

In the recent years, women have occupied a considerable number of paid positions in the labor market and continue to work even during periods of pregnancies but even though, women form a large part of the labor force, they are being discriminated against at the work place just due to their unique biological ability to bear children. To curb this issue the maternity protection and anti-discrimination legislation has taken various steps internationally against the increasing health and safety concerns related to the participation of

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ABSTRACT... Introduction: There are certain factors which are present at workplaces but cannot be seen as the potential hazards for the health of a normal women but when it comes to pregnant working women and mothers, these factors can have profound effects on health of women during pregnancy. These factors found are transportation, duty hours, medical and maternity leave policies, and stress at workplace, long standing hours. Support by supervisor and colleagues. **Objectives:** Objectives of this study are: 1. To find out the workplace factors affecting the women at their workplace. 2. To determine the effects of these factors on pregnancy. 3. To find out the association between these factors and complications of pregnancy. **Study Design:** Descriptive. Cross-sectional **Setting:** Teachers of private schools who were either pregnant or had at least one child during her job. **Material and Methods:** A pre-tested questionnaire was filled and sample was calculated by using statistical formula. **Results and Conclusion:** Study clearly showed association between the workplace factors and the poor health status of women during pregnancy and many complications of pregnancy were seemed to be related with their workplace factors.

Key words: Workplace, Workingwomen, Pregnancy, Factors

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females in the working sector especially catering to pregnant women.⁴ In Pakistan women comprise more than half the population and thus play a very important role in the Pakistan economy. The female labor force participation (FLFP) has drawn international attention in the past few years over Pakistan due to its development and structure. Although, the female participation rate in Pakistan has risen in Pakistan from 15.9 percent during the period 2003-04 to 18.9 percent during the period 2005-06 but it is still very low compared to other south Asian Countries.⁵ At present, Pakistan has least share of women in labour force that is only 22 percent.⁶

As a largest province in Pakistan, Punjab has 55.54 percent participation of women in labour force as compared to men, which is 81.4 Percent. As a major employing resource, among all the employed in agriculture, 3/4th part is women. Industry and services are among least selected fields of women. In salaried employment, women are claiming 27.7 percent share. 16.5 percent

of women are working as their own account holders.⁷

All over the world, motherhood is recognized as a phenomenon that is part of their work life at some level. Some women are mothers and some are in process yet others are considered potential mothers. The point to be noted is that all this is happening at a time when women are in active phase of their career as well.⁸

Many evidences has been collected in Canada about risk conditions that are present in workplaces and many of them have been reported to be potentially harmful to reproductive health of both genders including their ability to have healthy offspring. This harm may only be evident when somebody tries to have a baby and may affect the reproductive functions of a individual in many different ways.⁹

Reproductive hazards are agents or conditions that result in harm to the reproductive system in adults or impair development in the foetus o5 resulting children. There are various stages at which exposure of men and women to hazards can affect the reproductive process. It should be noted, however, that the reproductive system in itself is highly complex and its mechanisms are not fully understood. Workplace exposures have the potential to interfere with: male and female hormonal systems, women's menstrual cycle, development and function of sperm and ova, process of fertilization and implantation, foetal growth and development, and lactation of process.¹⁰

Given the number of workers who become pregnant each year, it is surprising how little research has examined the phenomenon of pregnancy at work. Unfortunately, given its rather limited scope, we still know little about pregnancy at work. Perhaps so few scholars have investigated the phenomenon because they simply assume that pregnancy is not important, that the key issues for organizations and workers arise after children are born.

This study will basically focus the problems that

are faced by pregnant females at their work place and how these problems affect their health during pregnancy. So here in this study we will tryto find a solution to all of these problems.

OBJECTIVES

Objectives of this study are:

1. To find out the workplace factors affecting the women at their workplace.
2. To determine the affects of these factors on pregnancy.
3. To find out the association between these factors and complications of pregnancy.

MATERIAL AND METHODS

A descriptive, cross sectional study was conducted among teachers of private schools in Lahore, who were teaching to middle and higher secondary section. The teachers who have either undergone or passing though the phase of motherhood were taken by convenient sampling technique. The sample size was estimated using the following formula:

$N = Z^2 \alpha/2p (1-p)/d^2 = N = 240$. However to increase the generalizability, more than 500 teachers was taken as participants.

After getting study approved by IRB, in order to lay down a set of factors, which can have any influence on pregnancy, a structured pre tested questionnaire adapted from the qualitative study done in the beginning. Most of the questions were close- ended. Participants were approached in their working institutions. A written consent was taken. Women were assured that their confidentiality would be maintained. All the cultural and societal norms were observed at all times during collection of data.

The data was organized, arranged and entered in SPSS software version 24. Descriptive statistics' performed to calculate frequency, mean, median and mode, percentage, range and standard deviation. Chi square test was implied to check for significance. P value= >0.05 was used. Binary logistic regression was also applied to assess the correlation between independent and dependent variables.

RESULTS

The results are as follows:

Socio-demographic characteristics of working women

Age is considered one of important factor in determining health of any individual especially in pregnant ladies. Along with this, age at marriage and age of the women at first pregnancy are other vital factors playing part in reproductive health. The results of the study showed that most of our participants were of young age belonging to 21-25years of age with mean at 23.6 years. Similarly, the average age at marriage was 23.1 years and as women got married earlier, they tend to become pregnant earlier at an average of 23.4 years. Number of children noted was 1-3 with a mean of 2. This can be affected by another factor that is education status of the participants. The education status of the participants was noted to be quite high as nearly 60 % had a master degree or above with 35 precents having a bachelor degree. (Table-I)

Variable	Frequency	Percentage
Age (in years)		
<20	86	17.1
21-25	240	48.1
26-30	122	24.3
>30	52	10.5
Mean ± SD= 24.67± 4.11 Min= 18 Max= 35		
Age at marriage		
18-25	240	48
26-30	210	42
> 30	50	10
Mean=23.1, SD=4.2		
Age at first pregnancy		
18-24	170	34
25-29	318	63.6
30-35	12	2.4
Mean=23.4		
No of children		
1	178	35.6
2	265	53
3	57	11.4
Mean= 2		
Education		
Higher secondary	78	15.6
Bachelor	168	33.6
Master and above	245	49.0
Mean=14.9, SD= 4.71		

Table-I. Characteristics of participants

Medical Facility and Maternity leaves

Table-II gives data regarding medical facilities provided by the institutes to their teachers which showed that only 10.6 precents' teachers are covered by full medical facility otherwise 57 precents' got only a part of expenses and 32.4 % did not receive any medical expenses by the organization. Regarding maternity leaves for the pregnant workers, about half of the working ladies were able to have paid maternity leave although only 3 precents' were getting this for more than 6 weeks and others were getting 4 or 6 weeks only.

Variable	Frequency	Percentage
Medical facility provided by Organization		
Yes. All	53	10.6
Yes. Some	285	57
No Not at all	162	32.4
Maternity Leave paid		
4 weeks	125	25
6weeks	115	23
>6 weeks	15	3
Maternity leave unpaid		
4 weeks	45	9
6 weeks	185	37
>6 weeks	15	3
Support from employer during pregnancy		
Supportive	135	27
Neutral	165	33
Non-supportive	200	40
Satisfaction regarding treatment at workplace during pregnancy		
Satisfied	135	27
Neutral	160	21
Not satisfied	205	41
Job stress level		
High	378	75.6
Medium	105	21
Low	22	4.4
Stress level faced during pregnancy		
High	425	85
Medium	75	15
Low	0	0
Standing hours at job during pregnancy		
>3	82	16.4
4_5	121	24.2
>5	297	59.4

Table-II. Facilities by organization
Mean= 4.1 hours, SD= 2.7

There were another 50 precents' who were not getting paid maternity leaves at all and among

them 9 percents' were getting unpaid leave only for 4 weeks and 37 percents' for 6 weeks.

Support and job Satisfaction, Standing hours and Stress levels during pregnancy

The level of support and help provided by the employers at workplace to a new mother matters a lot in productivity level of the female employee.

The data showed that only 27 % participants got desired support from their employers during pregnancy. 33 percents' reported to be neutral and 40 per cents were even found them un supportive during this crucial phase of their life.

Similarly, finding about the participant's satisfaction regarding the treatment she got at her workplace followed the same pattern. 41 per cents were unsatisfied with the treatment they received at their workplace. With 27 per cents who were satisfied and 21 per cents showed neutral behaviour regarding this.

As teachers job is to teach students by standing, when asked about the number of hours of standing while they were pregnant, 59.4 % reported of more than 5 hours of continuous standing. Only 16.4 % reported less than 3 hours of standing during pregnancy while on duty

Pregnancy

Most of time the pre-planned pregnancy bring less adverse and negative effects towards workingwomen in contrast to un-planned pregnancy. 84.2 % respondents considered that their pregnancy were pre planned while 15.8 % respondents state that their pregnancy was unplanned and undecided. Pregnancy demands regular check-ups from the hospitals and clinics on regular basis to avoid any future complications. Regarding the antenatal visits only 5 % participants did not get any antenatal. Almost 95 percents got their antenatal check-ups. Among them, 36 were those who went for their antenatal check for more than even three times. Rest of the working ladies got normally 2 or 3 visits. (Table-III)

Complications during pregnancy were reported by

57.5 % of the working mothers, 46 % of those had backache on regular basis. Other complications reported were 18 % pain in epigastrium, 15.6 % reported UTI's and 16 % high BP along with 18.4 % who were diagnosed a s case of eclampsia. On the other hand, 43 % did not report any complication during pregnancy. The point to be noted was that 57.8 percents working mothers attributed these complications towards their job and 42.1 % thought that it might be due to other reasons.

As far as, negative effects on mental health was concerned, 65 per cents working mothers marked that their mental health was affected negatively in a great deal and 18 % said quite a bit with only 10 percent's who marked it a little with only 7 % who negated any negative effects of their job (Table-III).

Table-IV shows an association of workplace factors with the complications, working mothers faced during pregnancy. Results showed that distance of workplace from home, stress level of job, stress which participants faced during pregnancy along with support of boss and colleagues and the treatment which participants faced during their pregnancy has association with the development of complications which working mothers faced during their pregnancy.

Table-V gives data about association between the support of employers and colleagues gave to the working mothers during their pregnancy and the mental health of the mothers. This factors showed a n association. Similarly how satisfied were women with treatment they have got from their bosses and authorities during their pregnancy regarding workload, appreciation and discrimination in other activities at job place I was also seen to be associated with the mental health of pregnant ladies.

Variable	Frequency	Percentage
Pregnancy (n=500)		
Planned	421	84.2
Unplanned	79	15.8
Antenatal visits (n=500)		
Yes	495	99
How many		
2	120	24
3	195	39
>3	180	36
No	5	1
Complication during pregnancy (n=500)		
Yes	285	57
Pain in epigastrium	90	18
UTI,s	78	15.6
High BP	80	16
Backache	230	46
Eclampsia	92	18.4
No	215	43
Does this complication was due to your job (n=285)		
Yes	165	57.8
No	120	42.1
Mental health negatively affected by job (n=500)		
Yes a great deal	325	65
Yes quite a bit	90	18
Very little	50	10
Not at all	3	7

Table-III. Pregnancy

Factors	Complications during pregnancy				P-value
	Yes= 285	57 %	No = 215	43%	
N=500	N	%	N	%	
Distance from workplace					
<5	31	58.9	69	41.1	< .001
6_10	63	51.3	118	46.9	
>10	191	56.7	28	43.3	
Job Stress Level					
High	221	56.91	157	43.1	< .001
Medium	54	52.3	51	47.7	
Low	10	58.0	11	42.0	
Stress faced at workplace during pregnancy					
High	243	55.8	182	44.2	< .001
Medium	42	57.0	33	33	
Low	0	0	0	0	
Standing hours during job					
<3	40	51	79	49	< .001
4_5	56	53	80	47	
>5	189	58	56	42	
Support from Employers and colleagues					
Supportive	56	52.1	79	47.9	< .009
Neutral	85	49.7	80	50.3	
Non-Supportive	144	57.1	56	42.9	
Satisfaction from t/m at job in pregnancy					
Satisfied	58	52.6	77	47.4	< .001
Neutral	89	51.3	71	48.7	
Un-satisfied	138	56.8	67	43.2	

Table-IV. Association of workplace factors with complications during pregnancy

Factors	Negative effects on mental health				P-value
	Yes= 447 89.4 %		No = 53 10.6%		
N=500	N	%	N	%	
Support from Employers and colleagues					
Supportive	95	89.6	40	10.4	< .001
Neutral	151	88.7	14	11.3	
Non-Supportive	200	100	0	0	
Satisfaction from t/m at job in pregnancy					
Satisfied	87	88.3	48	11.7	< .009
Neutral	155	89.0	5	10.9	
Un-satisfied	205	100	0	0	

Table-V. Association between mental health and support and satisfaction of women during pregnancy

Table-VI shows the results of the logistic regression which suggests the strong association between distance from workplace, job stress level, stress faced during pregnancy and standing hours at job with the complications of pregnancy faced by the participants during their pregnancy while

working. However, support a from their supervisor and colleagues and how much satisfied a pregnant worker from the treatment she got from her workplace during pregnancy were not found to be significant during this logistic model.

Variables	P-value	OR	95% CI	
			Lower	Upper
Distance from workplace	< 0.01	11.7	5.98	22.93
Job stress level	<0.01	1.82	1.13	2.96
Stress level during pregnancy	<0.01	2.15	1.18	3.91
Standing hours at job	<0.01	4.76	2.17	10.37
Support at workplace	0.995	4.73	2.07	7.89
Satisfaction from job	0.554	5.57	1.49	3.76

Table-VI. Logistic regression of the employment factors associated with complications during pregnancy

DISCUSSION

This section discusses the results and findings from study and focuses especially on specific research questions, which were finding the determinants at workplace that have influences on pregnancy.

The participants in causation of complication saw availability of different facilities by the organization including transportation as an important factor during pregnancy and childbirth. This finding was consistent with the findings from previous studies like workingwomen from industrial and agriculture sections have reported spontaneous abortions in many studies.¹¹

Similarly, other studies also documented use of public transport particularly for more than one hour on one way a risk for premature births in workingwomen.¹²

According to Pakistan Maternity benefit ordinance 1958, paid maternity leaves should be provided to all the workingwomen 6 weeks before and 6 weeks after the delivery. It is also admissible by law to combine these leaves with other leaves if required.¹³

This all was done to balance the family and work life of workingwomen. In our research, only handful women got this right of maternity leaves and all others especially working in small organization were not able to claim for this right. To take care of a child is responsibility of both parents and it can only be fulfilled with full health and no other action can substitute for this duty. Lack of support in this regards can discourage the females to participate in labour force on one hand and can diminish the family resources on the other side.¹⁴

As most of the participants of our study were

young and had a quite high level of education, the knowledge regarding the health and healthy practices could not be undermined. Their age at marriage and first pregnancy was found to be optimum.

In spite of all this, many workingwomen faced a lot of ill health during their pregnancy and complications during childbirth along with ill health during postnatal period.

Almost all pregnancies were pre-planned and well anticipated and also got their antenatal check ups during their pregnancy. In our survey, more than half of the participants got one or another complication during the pregnancy and all of them ascribed these to their job. About one third of participants reported the occurrence of high blood pressure and preeclampsia during pregnancy. This finding was also reported in many previous studies where preeclampsia was found to be a cause of adverse outcome of pregnancy like premature and small for date's babies.¹⁵ A Meta analysis about this also associated physically demanding work with pregnancy induced hypertension and preeclampsia.¹⁶

Distance from workplace, job stress during pregnancy and standing working hours found to be strongly associated with the complications of pregnancy but the factors like support from supervisor and colleagues and satisfaction of the participants by the treatment she got during pregnancy at workplace had been found associated with the complications of pregnancy. Similar finding regarding long-standing hours were found in a prospective cohort study where preterm births were found to be associated with long standing.¹⁷

Conclusion and recommendations

The study unveiled many factors, which are having profound effects on health of women during pregnancy. It gives an evidence that there is not sufficient health care policies and legislations which can give protection to working women from adverse effects, they are suffering due to the specific work related factors. There is great need to improve the outlook of workplaces

for the working mothers so that they cannot only enjoy a healthful family life but also can contribute to the economy of the country.

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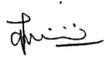
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We cannot become what we need to be by remaining what we are.

– Max De Pree –

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AUTHORSHIP AND CONTRIBUTION DECLARATION

Sr. #	Author-s Full Name	Contribution to the paper	Author=s Signature
1	Tazeem Akhtar	Conceptualization, Data collection, Literature search and manuscript writing and reviewing.	
2	Muhammad Athar khan	Concept building, data analysis and reviewing details.	
3	Saira Afzal	Data collection, analysis and results, Reviewing the article.	