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THE RELATIONSHIP BETWEEN FREQUENCIES OF SPOUSAL DEPLOYMENT AND DURATIONS OF SPOUSAL DEPLOYMENT TOWARDS PTD EXPERIENCES

Kafayat. O. OSHODI
C/O *Department of Sociology,*
University of Ibadan,
Ibadan, Nigeria *Oshodikafayat@gmail.com.*

ABSTRACT

The frequencies and durations of spousal deployments (SD) have been observed by scholars as a motivating factor toward Preterm deliveries (PTDs) during SD period. Previous studies on PTDs viewed the linked the causes to medical/biological factors, with little attention paid to psycho-social factors (PSF). This study, thus, highlighted the PSF of PTD outcomes among PPW during SD in selected Army Barracks (ABs) in Southwest, Nigeria. A cross-sectional survey using mixed-methods was employed. Six (6) ABs in Lagos state, two (2) in Ogun states, and two (2) Military Hospitals (MHs) in Lagos state were purposively selected. The study population comprised PPW. A semi-structured questionnaire and In-depth Interviews were conducted with PPW. Key Informant Interviews were conducted with doctors. The quantitative data were analysed using descriptive statistics, and Chi-square. Majority 155(17.4%) experienced loneliness, isolation, and lack of communication leading to PTDs when the duration was between 61 to 72 months. Whereas, majority experienced PTDs when the number of times was once 134(15.1%). Military authorities should bridge the widening durations of SD so as to reduce negative experiences and PTDs among spouses during deployments.

Keywords: *Army personnel wives, Duration and Frequency of Deployment, Preterm Deliveries, Spousal deployment.*

INTRODUCTION

Deployment is any movement from a military base to somewhere that is outside the base for the purpose of combat zone operation. The period of deployment usually differs from one personnel to another. Sometimes, it is either the frequency of times or the lengthy period of deployment that are counted. These two time frame are widely experienced by personnel. However, little knowledge is known about the relationship between frequency of times versus duration period, and deployment of spouses across the world (including Nigeria). The following scholars; Shaw, Nelson, Shaw, and Bickel, Phibbs, and Kurina, (2018); Fay, Shadi, Vidulich, Henderson, and Cassandra, (2016); Spieker, Schiff, and Davis, (2016); Jordan, Levine, Carter, Krista, Mehlhaff, and Conlin, (2015); Light (2015); and Spieker, (2012), ascertained these claims in their various studies.

It is worthy of note to state that, though this study was a military study, yet, paramilitary officers also face similar challenges regarding dangerous operations such as, the activities of the smugglers in Idiroko/Seme boarder, Oja-Odan, Ibogun-Giwa-Ifo road, Nigeria-Chad border/Maiduguri route, Daura-Ilella border axis in the Northern Nigeria.

Likewise, the activities of drug baron war lords/cartel`s leader in Akala, Mushin in Lagos State, and in following locations; Mubi in Adamawa, Onitsha, in Anambra State of Nigeria. And the criminal activities in of; Godogo alias Derico Nwanmama/Okwudili Ndiwe, The king of the underworld in Onitsha, Anambra State of Nigeria. Chiejina, the deadliest armed robber in Anambra State of Nigeria. The Shina Rambo of the Southwest, Nigeria. Thus, frequencies/longer durations of spousal deployment or posting to the aforesaid locations can make perinatal officers wives predisposed to PTDs.

Similarly, lack of visitation and communication failure of spouses were also addressed by scholars around the world as one of the causes of PTDs. The foregoing scholars equally emphasised these claims in their studies: Olapegba, Tade, and Davies, 2020; Houston, Pfeffer barum, Sherrman, Melson, and Brand, 2013; and Baptist, Amanor-Boadu, Garrett, Goff, Briana, Goff, Collum, Gamble, Gurss, Sanders-Hahs, Strader, and Wick, 2011.

Therefore, this study examined the relationship between frequencies of spousal deployment and durations of spousal deployments, communication failure/lack of visitation and stress towards PTD Experiences

LITERATURE REVIEW

Spousal Deployment and Frequency of Times and Duration

Spieker (2012) in her study on spousal military deployment during pregnancy and adverse birth outcome maintains that PTD and LBW are two of the major perinatal risks among women whose spouses are deployed in military organisations. She observed in her study that women whose spouses were deployed at the time (that is, specific period of time) of delivery were almost twice as likely to have the aforesaid risks. However, she clarifies that these risks were higher in other branches of the armed forces, such as the air force and the navy than in the army.

Light (2015) on her part, focused on the causes of PTD and revealed that the level of relationship and absence of a partner during delivery periods (that is, specific period of time) were contributing factors to perinatal risks. Whereas, Lederman and Weis (2009) and Weis, Lederman, Lilly, and Schaffer, (2008) averred that an overseas deployment of an intimate partner challenges a woman's acceptance of pregnancy.

Tarney, Caban, Cristobal, Jain, Ram, Kelly, Molly, Sewell, Mark, Willson and Karen, (2015) examined *Association of spouse deployment on pregnancy outcome in a U.S. Military Population.* The research was carried out in Army Medical Center (AMC) during obstetric visits at the end of the spouse's first trimester. The scholars discovered that: pregnant wives of deployed spouses had greater risk of PTD and postpartum depression, unlike non-deployed spouses; and pregnant women with deployed spouses were three times more likely to both have PTD and experience of postpartum depression unlike non-deployed spouses. More so, the duration period was uncertain.

Spousal Deployment and Lack of Visitation and Communication Failure

Succinctly, research has shown that spousal deployment has a positive association with PTD, and this is aftermath of deployment among pregnant wives of military personnel. Also, communication gaps between personnel and their spouses made them vulnerable to PTD. These factors were equally identified in Wadhwa, Culhane, Rauh, and Barve, (2001). Equally, scholars like Witt, Cheng, and Wakeel, (2014) and Osborne, et al. (2012) maintained that lack of cohabitating relationships, separation of partners, and deployment, etc. may likely have a positive association with PTD.

Spieker, Schiff, and Davis, (2016) investigated *Spousal military deployment during pregnancy and adverse birth outcomes.* A retrospective (11 years) cohort study, at Madigan Army Medical Center (MAMC), uses birth records of all singleton deliveries to dependent spouses. Theoretically, the impact of deployment affects the families of service men and women in the forces as it causes insomnia, anxiety, acute stress reactions, and adjustment disorders. Due to separation of partners and ineffective communication between spouses.

Similarly, Patchell, Clarke, Carson, and Tamlyn, (2016) examined the topic *Being by myself and believing in US: the experience of pregnancy and childbirth during an intimate partner's military deployment.* The study was a descriptive phenomenological approach to analysing the experiences during spousal deployment. The result shows that all the women experienced spontaneous births/PTD during spousal deployment. Although there was interaction between the partners through communication technology, the communication did not offer physical closeness and the reality of being together was lacking. Again, these women withheld or downplayed intimate details during communication, hence it left women feeling alone and frustrated. This may likely be one of the major causes of spontaneous births/PTD among personnel spouses.

Again, Shaw, Nelson, Shaw, and Bickel, Phibbs, and Kurina, (2018) studied *Deployment and preterm birth among U.S. Army soldiers.* The essence of the study was to estimate the association between prior deployment that is, number and timing of deployment prior to delivery; how recent was the return from deployment; and post-traumatic stress disorders with spontaneous preterm birth (SPB) among wives.

The report showed that pregnancies that were conceived during deployment were twice likely to end in SPB. Past deployment and posttraumatic stress disorder were significantly associated with SPB. Timing of pregnancy, in relation to deployment, was identified as a novel risk factor for SPB. Therefore, timing of pregnancy and pre-deployment access to reproductive counselling and effective contraception were necessary to reduce the incidence of SPB.

METHODOLOGY

The study was conducted in all the selected military hospitals and barracks located in Lagos and Ogun states in South-West, Nigeria. The target population for this study included the perinatal who were wives of military personnel deployed to the combat zones in the North-East region of Nigeria. The respondents included wives whose spouses were in the zone for numbers of times and durations. The data collection was undertaken using a multi-stage sampling technique to purposively select the barracks due to the nature of the research.

The quantitative data were analysed using descriptive statistics, Chi-square, and Spearman Rank Correlation. In recognition and adherence to ethical considerations for the research, participants' consent were sought and permission to withdraw participation was allowed.

DATA ANALYSIS AND FINDINGS

The Relationship between Frequencies/Durations of Spousal Deployment and Visitation, and Communication that lead to PTD

Table 1: Relationship between Frequency of Spousal Deployment and Visitation and Communication during Deployment

Independent variable	Dependent variable	X^2	Significance value	Status
	Husband visiting during deployment	37.825	0.000	Significant
	Sending of gifts during deployment	27.491	0.000	Significant
	Sending letters during deployment	16.707	0.019	Significant
	Calls from husband during deployment	39.580	0.000	Significant

Source: Field survey, 2020

The findings (1) established that there was a significant positive relationship between *Husband visiting and SD* ($X^{2=}$ 37.825, Sig. =0.000), *sending of gifts during deployment* ($X^{2=}$ 27.491, Sig. =0.000), *sending letters during deployment* ($X^{2=}$ 16.707, Sig. =0.019), and *calls from husband during deployment* ($X^{2=}$ 39.580, Sig. =0.000). Hence, PTD experiences were controlled as a result of these experiences. The set condition for this analysis was a confidence interval of 95% and a probability level of 0.05, where significance values lesser than the probability level were considered significant. Generally, Table 1 portrays the significance and effect of visitation, communication, and frequency of spousal deployments among spouses. Hence, lack/inadequate communication between spouses and frequencies of spousal deployment contributed to PTD experiences.

Table 2: Relationship between Duration of Spousal Deployment and Visitation and Communication

Independent variable	Dependent variable	X^2	Significance value	Status
Deployment duration	Visitation to husband during deployment	19.737	0.003	Significant
	Sending of gifts during deployment	12.994	0.043	Significant
	Sending letters during deployment	14.278	0.027	Significant

Source: Field survey, 2020

Similarly, Table 2 established that there was a significant positive relationship between *sending of gifts during deployment* ($X^{2=}$ 12.994, Sig. =0.043), *sending letters during deployment* ($X^{2=}$ 14.278, Sig. =0.027), and *visitation to husbands during deployment* ($X^{2=}$ 19.737, Sig. =0.003). Therefore, based on the aforesaid tables, the analysis shows that duration of spousal deployment and non-visitation and non-communication are sine-qua-non to the PTD experiences. The emphasis was on reasonable communication to a certain extent between couples e.g. husbands' visits during deployment, sending of gifts, letters and calls from husbands during deployment period. Thus, Table 2, indicates that duration of spousal deployment have significant relationships with the foregoing variables during spousal deployment vis-à-vis PTD experiences.

Table 3 Deployment duration (Months) and Experience of Loneliness, Isolation, and Lack of Communication

Cross-tab **Deployment duration (Months) and Experience of Loneliness, Isolation, and Lack of Communication**	Total Agree frequency & %
6 to 18 months	122 (13.7%)
19 to 24 months	87(9.8%)
25 to 36 months	128(14.4%)
37 to 48 months	151(17.0%)
49 to 60 months	137(15.4%)
61 to 72 months	155(17.4%)
Above 72 months	110(12.4%)

Source: Field survey, 2020

Table 3 shows that the respondents who were highest in the experiences of loneliness, isolation, and lack of communication during spousal deployment period were those whose spouses have been deployed between 61 to 72 months (17.4%). The lowest in these experiences were those whose spouses have been in the N-EN between 19 to 24 months (9.8%). Thus, one can deduced that longer duration of deployment can make spouses more vulnerable to loneliness, isolation, and lack of communication vis-à-vis PTD in the absence of husbands. This argument is also emphasized in the succeeding table.

Table 4 The Relation between Perception of Army Personnel Wives and Loneliness, Isolation, Lack of communication, and Number of Spousal Deployment

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.045	6	.671
Likelihood Ratio	4.047	6	.670

Linear-by-Linear Association	2.451	1	.117
No of Valid Cases	890		

The relation between the perception of army personnel wives about loneliness, isolation, lack of communication, and the number of deployment was tested using the Pearson's Chi Square test of association. The result of the analysis revealed that there is a statistically significant relationship between number of deployment of husband and, loneliness, isolation, lack of communication with spouse. Thus we can infer that the number of spousal deployment significantly influence the incidence of loneliness, isolation, lack of communication vis-à-vis PTDs among army personnel wives if the situation is not well managed by the respondents.

Table 5. Relationship between Number of Spousal Deployment and Perinatal Stress

		Number of spousal deployments
High and bad stress during husband's deployment	Correlation Coefficient	.107
	Sig. (2-tailed)	.001
	N	890
Mild and normal stress during husband's deployment	Correlation Coefficient	-.098
	Sig. (2-tailed)	.003
	N	890

Source: Field survey, 2020.

Relationship between Perinatal Stress Level and Number of Spousal Deployment

A statistically significant negative correlation was observed with the variable: Mild and normal stress during husband's deployment (r= -.098, Sig. = 0.003). This connotes that the nature of the relationship between spousal deployments (independent variable) and this variable (dependent variables) are in the opposite direction such that any increase in the magnitude of one decreases the other and vice-versa. Also, a statistically significant positive correlation was observed with the variable: High and bad stress during husbands Deployment (r= -.107, Sig. = 0.001). This connotes a magnitude geared in the same direction such that an increase in the magnitude of one, automatically induces an increase in the magnitude of the other and vice versa in the case of decrease.

Table 6 Relationship between Duration of Spousal Deployment and the Role of Extended Family and Army Officers' Wives Associations

		Deployment duration (Months)
Extended family remarkable role during Husband's Deployment	Correlation Coefficient	-.113
	Sig. (2-tailed)	.001
	N	890

Source: Field survey, 2020.

The relationship between the duration of spousal deployment and the role of extended family and army officers' wives' associations indicated that, the only relationship during duration of spousal deployment Vis-à-vis PTD was a negative relationship and that is, *extended family remarkable role during husband's deployment* (r= -.113, Sig.= 0.001).

Table 7: Relationship between Numbers of Spousal Deployment and Perinatal Risks

		Number of spousal deployments
PTD Due to unaffordable bill	Pearson's correlation	-.069
	Sig. (2-tailed)	.038
	N	890

Source: Field survey, 2020.

Relationship between Perinatal Risks and Number of Spousal Deployment

In examining the relationship between the incidence of perinatal risk factors influencing PTD and the number of spousal deployments, Table 7, established that the only relationship between the number of spousal deployment and PTD was unaffordable bill (r = -.069 Sig.= 0.038).

Table 8: Variation in Incidence of Sicknesses and Duration of Spousal Deployment

ANOVA

		Sum of squares	Df	Mean square	F	Sig.
Sickness due to aging and husband's deployment	Between groups	35.777	7	5.111	4.092	.000
	Within groups	1101.566	882	1.249		
	Total	1137.344	889			

Source: Field survey, 2020

The result of the One-Way Analysis of Variance revealed that the incidence of sicknesses among army personnel's wives showed that *Sickness due to aging and husband's deployment* (F= 4.092, Sig. = 0.000), exhibited significant variation as revealed by the significance level lower than the set probability level. This implies that, the respondents were susceptible to stress and illnesses due to the duration of deployment.

Table 9 Number of times of Spousal Deployment as a determinant factor towards PTDs

No of times	Frequency	Percentage
1	134	15.1
2	116	13
3	92	10.3
4	116	13
5	91	10.2
6	97	10.9
7	122	13.7
8	122	13.7
Total	**890**	**100**

Source: Field survey, 2020

According to Table 9 the majority (15.1%) in the population experienced PTDs when the number of deployment was once. This might be due to the fact that, the respondents were inexperienced about the spousal deployment, young age in marriage, among others.

Table 10 Durations of Months of Spousal Deployment as a determinant factors towards PTDs

Duration of months	Frequency	Percentage
3 to 12 months	105	11.8
13 to 24 months	153	17.2
25 to 36 months	121	13.6
37 to 48 months	139	15.5
49 to 60 months	120	13.4

61 to 72 months	150	16.7
73 to 84 months	102	11.5
Total	**890**	**100**

Source: Field survey, 2020

Table 10 majority (17.2%) in the population experienced PTDs when the duration of deployment was between 13 to 24 months. This might be due to the fact that, the respondents were inexperienced about the spousal deployment, young age in marriage, among others

DISCUSSION OF THE FINDINGS

On one hand, from the results of the frequency counts and inferential statistics, it is clear that a good portion of the respondents has not been communicating effectively with their spouses. Several of the respondents have been traumatised because of fear of the unknown, the uncertainty of the state of their spouses, due to lack of communication from their spouses for numbers/long periods/durations of SD. This has resulted in psychological trauma for a good number of women vis-à-vis PTD deliveries. It is obvious that a clear pattern of communication has not been adequately provided for the respondents and their spouses during deployments. Thus, lack of communication could create a possible endemic of psychiatry cases on the part of the respondents who had not heard from or spoken to their husbands in a long while. This is because they were uncertain and unaware of their spouses' current state. That is, they were not sure whether their husbands were alive or dead. This potential endemic, from the analysis, showed that there will be a subtle but steady rise in women that will be down with psychological trauma if the issue of proper communication channel is not resolved.

Furthermore, lengthy periods of deployment were discovered to impair communication of spouses and their families, especially their wives. More so, analysis has also shown that there is a statistically significant relationship between frequency of deployment of husband and, loneliness, isolation, lack of communication with spouse. Therefore, this factor can also influence the incidence of loneliness, isolation. A possible way to reduce PTD outcome is therefore, to ensure that communication is not impaired; check the duration of deployment of a personnel member to a particular time frame; or to give opportunities to visit and to be visited by spouses. This might help the productivity of such an individual at his duties and discharge the commands. Productivity will likely be heightened if the personnel hear a word of encouragement and prayers from their spouses. This can go a long way in boosting their morale.

Moreover, frequent deployments of personnel, according to the study also showed that wives with a greater frequency of spousal deployments had communication issues with their husbands. A good number of them had not been speaking with husbands, even though there was no form of a quarrel between them. Although most times wives might attempt to call and visit, they were usually dissuaded by disastrous roads, high cost of fare, terrorist attacks, long distance of five or more days on the road due to deplorable roads, poor network for calls and undelivered messages, and husband's inaccessibility because he was in warfront or one situation or the other.

This argument corroborates that of Baptist, et al., 2011, who asserted that lack of communication with spouses' degenerates to anxiety. To these spouses, lack of communication implies that husbands have been injured in the warfront. Consequently, it led to maintaining an open channel of communication for personnel and their wives either through regularised phone calls or encouraging the use of letters or mails to be delivered to personnel at the deployment locations. This indicate that the more spouses are deployed, the higher the foregoing variables are experienced. Thus, communication gap between personnel and their spouses made them vulnerable to PTD. These factors were equally identified in Wadhwa, Culhane, Rauh, and Barve,

(2001). Although, in a situation whereby communication was reasonable, one can deduced from the analysis that it was probably because the frequency of deployment was recurrent and lengthy.

On the other hand, According to Table 9 the majority (15.1%) in the population experienced PTDs when the frequency of deployment was once. This might be due to the fact that, the respondents were inexperienced about the spousal deployment, young age, and young age in marriage, among others. Thus, sometimes the incidence of PTDs can be common among the first timers' respondents due to their inexperience and young age. This foregoing scenario also applies to the respondents in Table 10. For instance, the majority (17.2%) in the population experienced PTDs when the duration of deployment was between 13 to 24 months.

A statistically significant negative correlation was observed with the variable: Mild and normal stress during husband's deployment (r= -.098, Sig. = 0.003). This connotes that the nature of the relationship between spousal deployments (independent variable) and this variable (dependent variables) are in the opposite direction such that any increase in the magnitude of one decreases the other and vice-versa. Also, a statistically significant positive correlation was observed with the variable: High and bad stress during SD. The foregoing result connotes that stressful daily activities, pressure from shifted responsibilities and inadequate support. Therefore, social support among neighbours played a key role in ameliorating stress vis-à-vis PTD deliveries. Again, the stress phenomenon played a vital role in PTD deliveries vis-à-vis the numbers and durations of spousal deployment. Stress is a catalyst for PTD outcomes among perinatal personnel's spouses (Hobel, Goldstein, and Barrett, 2008; Tarney, et al., 2013; Daigle, 2013; Christopher, et al., 2015; Spieker, et al., 2016; and Morrison, 2021).

The aforesaid experiences also explained why the issue of sickness due to aging and husband's deployment (F= 4.092, Sig. = 0.000) occurred most especially among the older categories. This shows that, the respondents were susceptible to stress and illnesses due to the duration of deployment probably because of; financial hardship, poor dieting, and fatigue, Mitchell and Christian (2016) affirmed this in their findings.

Similarly, the relationship between the duration of spousal deployment and the role of extended family and army officers' wives' associations indicated that, there was a negative relationship between extended family remarkable role during husband's deployment vis-à-vis (r= -.113, Sig.= 0.001). This implies that, as the role of extended family decreases when the duration of SD increases, the higher the incidences of PTD deliveries. Hence, one can inferred that lack of support vis-à-vis longer duration is one of the contributing factors towards PTD outcomes when the frequency of SD increases or when the duration of SD is extended or longer. Consequently, Klein, Tatone, and Lindsay, 2001; Bowen, Mancini, Martin, Ware, and Nelson, 2003; Dandeker, French, Birtles, and Wessely, 2006; Skomorovsky, 2014; & Fivek, 2017, suggested that support system during SD is necessary among personnel spouses.

Unaffordable bill also had relationship between the number of SD and PTD (r = -.069 Sig. = 0.038). This condition might occur among the respondents because SD is more frequent yet, income sources are limited because most of the respondents depended on their husbands for survival. Morrison and Regnault (2016) and Mitchell and Christian (2016) have also acknowledged this in their studies.

CONCLUSION

This study shows that, there was a relationship between numbers/durations of spousal deployment and the incidences of PTDs among the respondents. One of the major factors for this

incidence was stress and communication failure among spouses. Others included; financial constraints, sickness due to aging and inadequate support during spousal deployment.

RECOMMENDATOION

Military authorities should bridge the widening numbers/durations of spousal. This can be reduced to three times with a space of two or three years between deployments. This should also boost the productivity of military personnel in the N-EN war zone and reduce the distractions resulting from matters of their wives' situation at home. Most personnel are passionate about their spouses. The situation at warfront and any bad/sad report about spouses might cause Preterm deliveries among wives during delivery periods.

Furthermore, pass and longer deployment should be made flexible. The Nigerian Army should consider cases of personnel who have over-stayed in the location to prevent the discussed challenges. Changing personnel on a rotational basis and set-by-set can facilitate success and achievement in battle. It also has the advantage of making personnel strong, active and agile after a few years break from the zone.

Therefore, the NA must bridge the widening communication gap between spouses during deployments. Military personnel should be allowed to make regular phone calls to their perinatal wives and write letters to them from the combat zones. This will check communication failure among couples. Also, the allowances and other benefits of the military personnel deployed to war zone should be paid promptly. This will help them to support their families at home and reduce susceptibility to Preterm deliveries.

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