

WORK PLACE ENVIRONMENT AS A PREDICTOR OF FAMILY CONFLICT AMONG PHYSICIANS AND NURSES IN A UNIVERSITY HOSPITAL

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Abstract

Key Introduction: Work-family conflicts are in a continuous rise all over the world. Hospital environment is recognized as a major predictor of this growing problem. **Aim of Work:** To determine the effect of work place environment on family conflicts and explore predictors for positive and negative work family conflicts among physicians and nurses in Tanta University Hospitals, Egypt. **Materials and Methods:** A cross-sectional study was conducted among a sample of 676 physicians and nurses in Tanta University Hospitals. A self-administered questionnaire was used for data collection which included: personal data, occupational history and household responsibilities. Scales for work to family and family to work spillover were used to assess work-family interface by evaluating 16 items in four domains and Job characteristics scales which included 5 domains. **Results:** Nearly half of studied participants had Moderate degree of negative work to family spillover (56.7%) and negative family to work spillover (49.6%). The negative work to family and family to work spillovers significantly increased by increasing number of shifts/week ($r = 0.104$, $p = 0.013$, $r = 0.125$, $p = 0.003$ respectively). Statistically significant negative correlations were detected between coworker's support, supervisors support and both negative work to family spillover ($r = -0.144$, $r = -0.167$, $p = 0.001$, respectively) and family to work spillovers ($r = -0.204$, $r = -0.180$, $p = 0.001$, respectively). Statistically significant positive correlation was found between skill discretion, decision authority, coworkers support, supervisors support and both, positive work to family ($r = 0.261$, $r = 0.308$, $r = 0.156$, $r = 0.206$, $p = 0.001$) and positive family to work spillovers ($r = 0.246$, $r = 0.292$, $r = 0.156$, $r = 0.175$, $p = 0.001$). **Conclusion and Recommendations:** There is Moderate degree of work family conflicts which is affected by work environment conditions. In order to have a healthy work place and when planning for occupational health and safety program;

there should be friendly supportive positive work place environment. Handling these conflicts effectively are mandatory.

Key words: Work conflict, Family conflict, Work environment, Physicians and Job characteristics.

Introduction

Work-family conflicts are on continuous rise all over world and are not restricted to certain workplaces or to certain hospital or organization (Warokka and Febrilia, 2015). Different types of conflicts included: (1) Work-Family conflict (WFC) which arises when job-responsibilities and demands affect family demands and responsibilities (2) Family-Work Conflict (FWC) arises when family responsibilities hinder job demands and responsibilities (Netemeyer et al.,1996). It is a bidirectional inter-role conflict as work and family realms are closely tangled to each other (Li et al., 2019). Work place environment is recognized as a major challenge of the growing work to family conflict problem and its predictors which include: *Social stressors* as conflicts with supervisors and coworkers, negative work climate as low decision authority, low skill discretion and high work load (Kottwitz et al.,2014). *Psychosocial work factors* as high job demands, lack of job control, and career issues . *Long working hours* (work > 40 hours/week

within hostile work environment) and *shift work* (Luckhaupt et al., 2014). Researches also demonstrated predictors related to *family domain* as (house work, childcare, care of aging family member or one with special need). Simply FWC and WFC happen when working personnel are unable to make the needed balance, and arrange energy and/or time to meet role and responsibilities (Beauregard ,2006).

Several studies reported that these conflicts are present in large scale in hospitals among health care workers (HCWs). Healthcare is a complex profession posing stressful and difficult workplace challenging situations. (Cortese et al.,2010; Anafarta 2011; Asiedu et al.,2018; and Raffendaud et al.,2019). HCWs frequently find themselves held between work place demands and family demands (Cortese et al.,2010; Al Azzam et al.,2017 and Alhani and Mahmoodi, 2018). Predictors of these conflicts have to be explored and analyzed for its greater impact on the physicians and nursing shortage, performance and would help them to gain equilibrium of work-family life (Gonnelli et al., 2018).

Several studies have linked WFC/FWC with low levels of job satisfaction and burnout (Abdo et al., 2015 and Fasbender et al., 2019). Burnout has serious and severe negative impacts on HCWs themselves and on the provided health services. Health care personnel may suffer from increased level of stress, anxiety, depression, low work ability and performance and increased intention to leave and turn over (Li et al., 2019 and Raffendaud et al., 2019).

Ramesh and Gelfand (2010) recognized family as a critical issue making people stacked in their jobs and a strong predictor of turn over intention. Several studies found that no significant gender difference regarding family-to-work (FWC) and work-to-family conflicts (WFC) (Janzen et al., 2007). Other studies reported that HCWs experience great intensity of work-to-family conflict (WFC) while those working in less demanding jobs experience great intensity of family-to-work conflict (FWC) (Ahmad, 2008, Warokka and Febrilia, 2015).

Aim of Work

To determine the effect of work place environment on work family conflicts and explore predictors for positive and negative work family

conflicts among physicians and nurses in Tanta University Hospitals, Egypt.

To determine the effect of work place environment on work family conflicts and explore predictors for positive and negative work family conflicts among physicians and nurses in Tanta University Hospitals, Egypt.

Materials and Methods

Study design: It is a cross-sectional study.

Place and duration of the study: The study was carried out at Tanta University Hospitals during October and November 2019.

Study sample: A sample of 676 health care workers were included that are physicians and nurses randomly selected from the Surgical and Medical departments in Tanta University Hospitals, and who have a duration of work for at least 6 months: General surgery, Obstetrics and gynecology and Urology departments which represent Surgical departments and from Internal Medicine, Pediatrics and Cardiology departments which represent Medical departments.

Study methods:

1- A self-administered questionnaire

was used for data collection and included: socio-demographic characteristics (age, sex, education, marital status, duration of marriage in years, number of siblings, age of youngest sibling, and number of household members), occupational history (type of job, monthly income, experience in years, number of shifts/week) and home responsibilities (have house responsibilities, caring for dependent persons, getting help for house duties, having family support in hard days, need leave to care for dependent family member).

2- Work to family and family to work spillover scales included four domains: *Positive Work to Family spillover* (4 items), *Negative Work to Family spillover* (4 items), *Positive Family to Work spillover* (4 items), and *Negative Family to Work spillover* (4 items). Items are ranked on a 5-point scale extending from 1 (all the time) to 5 (never) (National study of Health and Wellbeing, 2004).

3- Job characteristics scales include five domains: *Skill discretion* (three questions), *Decision authority* in (six questions), *Work demands* in (five questions), *Coworker's support* (two questions) and *Supervisor support*

(three questions). Items are ranked on a 5-point scale extending from 1 (all the time) to 5 (never). The scales were assembled by summing the reverse-coded values of the items in each domain (National Study of Health and Wellbeing, 2004).

Consent

Informed verbal consent was obtained from all participants sharing in the study.

Ethical Approval

An official permission letter was obtained Hospitals' general supervisor. Preliminary approval was obtained from Tanta Faculty of Medicine Ethical Committee.

Data Management

Data were collected; coded then sorting and analysis were done using Statistical Package for Social Sciences (SPSS) version 21. Number and percent were used for presenting qualitative data while mean and standard deviation (SD) were used for quantitative data. The appropriate tests of data were used according to the type of data and significance level was accepted at $p < 0.05$.

Results

Table (1): Socio demographic characteristics of the studied group.

| Variables | Number (No=676) | % |
|----------------------------------------------|-----------------|------|
| Age / years: | | |
| 20- | 376 | 55.7 |
| 30- | 147 | 21.7 |
| 40- | 117 | 17.3 |
| 50-60 | 36 | 5.3 |
| Sex: | | |
| Males | 187 | 27.7 |
| Females | 489 | 72.3 |
| Qualifications: | | |
| Diploma of nursing | 300 | 44.3 |
| Bachelor of nursing | 202 | 29.9 |
| Bachelor of medicine | 112 | 16.6 |
| Master degree | 47 | 7.0 |
| Doctorate degree | 15 | 2.2 |
| Marital status: | | |
| Single | 235 | 34.8 |
| Married | 434 | 64.2 |
| Divorced | 1 | 0.1 |
| Widow | 6 | 0.9 |
| Number of household members: | | |
| <3 | 79 | 11.7 |
| 3 | 139 | 20.6 |
| 4 | 197 | 29.1 |
| 5 | 164 | 24.3 |
| 6+ | 97 | 14.3 |
| Duration of marriage/ years (No =441) | | |
| <5 | 122 | 27.7 |
| 5- | 109 | 24.7 |
| 10- | 55 | 12.5 |
| 15+ | 155 | 35.1 |
| Number of siblings: (No =441) | | |
| 0 | 76 | 17.2 |
| 1 | 78 | 17.7 |
| 2 | 157 | 35.6 |
| 3 | 92 | 20.9 |
| 4+ | 38 | 8.6 |
| Youngest sibling age/ years (No =365) | | |
| ≤2 | 123 | 33.7 |
| 3-5 | 81 | 22.2 |
| 6-12 | 115 | 31.5 |
| 13-19 | 29 | 7.9 |
| 20+ | 17 | 4.7 |

Table (1) showed that (55.7%) of studied HCWs aged 20-29, more than 70% were females, and the majority (64.2%) of them were married. Seventy four percent (74%) have house members from 3-5. More than one quarter (27.7%) have duration of marriage less than five years. More than half (56.5%) had from 2- 3 siblings.

Table (2): Job characteristics and home responsibilities of the studied health care workers.

| Variables | Number(No =676) | % |
|----------------------------------------|-----------------|------|
| Type of Job: | | |
| Nurse | 452 | 66.9 |
| Head nurse | 53 | 7.8 |
| Resident | 137 | 20.3 |
| Assistant lecturer | 27 | 4.0 |
| Lecturer | 7 | 1.0 |
| Monthly income: | | |
| Enough and saving | 347 | 51.3 |
| Enough | 288 | 42.6 |
| Not enough | 41 | 6.1 |
| Total experience /years: | | |
| <5 | 302 | 44.7 |
| 5- | 141 | 20.9 |
| 10- | 57 | 8.4 |
| 15- | 31 | 4.6 |
| 20+ | 145 | 21.4 |
| Experience in current job: | | |
| <5 | 338 | 50.0 |
| 5- | 129 | 19.1 |
| 10- | 54 | 8.0 |
| 15- | 26 | 3.8 |
| 20+ | 129 | 19.1 |
| Average number of shifts/weeks: | | |
| 1 | 109 | 16.1 |
| 2 | 326 | 48.2 |
| 3 | 112 | 16.6 |
| >3 | 129 | 19.1 |
| Have house responsibilities | | |
| None* | 73 | 10.8 |
| Some | 231 | 34.2 |
| All | 372 | 55.0 |

| | | |
|-----------------------------------------------------|-----|------|
| Caring for individual with special needs | 195 | 28.8 |
| Having support of household responsibilities | 347 | 51.3 |
| Having support from family in hard days | 514 | 76.0 |
| Need leave to care for family member | | |
| Many days | 152 | 22.5 |
| Sometimes | 405 | 59.5 |
| Rarely | 119 | 17.6 |

*: Approximately 35% of the studied group were single not involved in home duties, and these daily recurring tasks was performed by any house member, or by other persons like maids who were hired for this purpose.

Table (2) showed that 74.7% of the studied HCWs were nurses' staff and 25.3% were physicians. More than 50% of them reported that monthly income was enough and saving. Half of them had less than five years' experience in the current job. Less than half (48.2%) took from 1-2 shifts per week and 55.0 % are responsible for all home duties. Nearly one third (28.8%) was caring for individual with special needs at home and 76.0% had a supportive family member.

Table (3): Distribution of the studied group by severity of work-family-work conflicts and Job characteristics.

| Variables | Low | | Moderate | | High | |
|-----------------------------------|-----|------|----------|------|------|------|
| | No | % | No | % | No | % |
| Positive work to family spillover | 134 | 19.8 | 438 | 64.8 | 104 | 15.4 |
| Negative work to family spillover | 170 | 25.1 | 383 | 56.7 | 123 | 18.2 |
| Positive family to work spillover | 62 | 9.2 | 423 | 62.6 | 191 | 28.3 |
| Negative family to work spillover | 282 | 41.7 | 335 | 49.6 | 59 | 8.7 |
| Skill discretion | 57 | 8.4 | 458 | 67.8 | 161 | 23.8 |
| Decision authority | 279 | 41.3 | 343 | 50.7 | 54 | 8.0 |
| Work demands | 161 | 23.8 | 448 | 66.0 | 69 | 10.2 |
| Coworker's support | 108 | 16.0 | 446 | 66.0 | 122 | 18.0 |
| Supervisor's support | 144 | 21.3 | 396 | 58.6 | 136 | 20.1 |

Table (3) showed that 80% of participants experience was from Moderate to High Positive work to family spillover. More than ninety percent (90.9%) experience Moderate to High level of Positive family to work spillover. The majority (91.6%)

had from Moderate to High level skills discretion. Nearly half of study participants had decision authority in their job. Only 10.2% had High work demands, 84% had positive coworker's support. More than 75% had Moderate to High level supervisor's support.

Table (4): Correlation between years of experience at work, number of shifts, income with work-family conflicts and job characteristics.

| Variables | Work experience in years | | Number of shifts/ weeks | | Monthly income | |
|-----------------------------------|--------------------------|---------------|-------------------------|---------------|----------------|---------------|
| | r | p | r | p | r | p |
| Positive work to family spillover | 0.111 | 0.004* | 0.028 | 0.505 | 0.093 | 0.015* |
| Negative work to family spillover | -0.038 | 0.320 | 0.104 | 0.013* | -0.205 | 0.001* |
| Positive family to work spillover | -0.020 | 0.605 | -0.081 | 0.055 | 0.073 | 0.056 |
| Negative family to work spillover | -0.144 | 0.001* | 0.125 | 0.003* | -0.073 | 0.059 |
| Skills discretion | -0.088 | 0.023* | -0.030 | 0.478 | 0.097 | 0.011* |
| Decision authority | 0.079 | 0.041* | -0.111 | 0.008* | 0.040 | 0.298 |
| Work demands | -0.018 | 0.649 | 0.122 | 0.004* | -0.098 | 0.010* |
| Coworkers support | 0.047 | 0.218 | -0.060 | 0.156 | 0.013 | 0.737 |
| Supervisors support | 0.008 | 0.841 | -0.119 | 0.005* | 0.039 | 0.308 |

*: Statistically significant.

*: r: correlation coefficient

Table (4) demonstrated a statistically significant positive correlation between work experience, positive work to family spillover ($r=0.111$, $p=0.004$) and decision authority ($r=0.079$, $p=0.041$). A statistically significant negative-correlation between work experience, negative family to work spillover ($r= -0.144$, $p=0.001$) and skills discretion ($r= -0.088$, $p=0.023$). A statistically significant positive correlation was present between number of shifts/week, negative work to family spillover ($r=0.104$, $p=0.013$), negative family to work spillover ($r=0.125$, $p=0.003$) and work demand ($r=0.122$, $p=0.004$), but a statistically significant negative correlation was present between number of shifts/week, decision authority ($r= -0.111$, $p=0.008$)

and supervisors support ($r = -0.119, p = 0.005$). A statistically significant positive correlation was present between monthly income, positive work to family spillover ($r = 0.093, p = 0.015$) and skills discretion ($r = 0.097, p = 0.011$), but a statistically significant negative correlation was present between monthly income, negative work to family spillover ($r = -0.205, p = 0.001$) and work demand ($r = -0.098, p = 0.010$).

Table (5): Correlation between job circumstances and family-work conflict.

| Variables | Positive work to family spillover | | Negative work to family spillover | | Positive family to work spillover | | Negative family to work spillover | |
|---------------------|-----------------------------------|---------------|-----------------------------------|---------------|-----------------------------------|---------------|-----------------------------------|---------------|
| | r | p | r | p | r | p | r | p |
| Skills discretion | 0.261 | 0.001* | -0.040 | 0.304 | 0.246 | 0.001* | -0.054 | 0.160 |
| Decision authority | 0.308 | 0.001* | -0.185 | 0.001* | 0.292 | 0.001* | 0.008 | 0.836 |
| Work demands | -0.048 | 0.209 | 0.381 | 0.001* | -0.086 | 0.025* | 0.214 | 0.001* |
| Coworkers support | 0.156 | 0.001* | -0.144 | 0.001* | 0.156 | 0.001* | -0.204 | 0.001* |
| Supervisors support | 0.206 | 0.001* | -0.167 | 0.001* | 0.175 | 0.001* | -0.180 | 0.001* |

*: Statistically significant.

*: r: correlation coefficient

Table (5) illustrated a statistically significant positive correlation between positive work to family spillover and skills discretion ($r = 0.206, p = 0.001$), decision authority ($r = 0.308, p = 0.001$), coworkers support ($r = 0.156, p = 0.001$), and supervisors support ($r = 0.206, p = 0.001$). Regarding the negative work to family spillover, a statistically significant negative weak correlation was present with decision authority ($r = -0.185, p = 0.001$), coworkers support ($r = -0.144, p = 0.001$), and supervisors support ($r = -0.167, p = 0.001$). Positive family to work spillover had a statistically significant positive weak correlation with skills discretion ($r = 0.246, p = 0.001$), decision authority ($r = 0.292, p = 0.001$), coworkers support ($r = 0.156, p = 0.001$), and supervisors support ($r = 0.175, p = 0.001$). In contrast, it had a statistically significant negative correlation with work demands ($r = -0.086, p = 0.025$). Negative family to work spillover had a statistically significant positive weak correlation with work demands ($r = 0.214, p = 0.001$), but it had a statistically significant negative correlation with coworker's support ($r = -0.204, p = 0.001$), and supervisors support ($r = -0.180, p = 0.001$).

Discussion

Hospitals are stressful work places with “high work load, tight schedules, equipment problems, paperwork, demanding patients, and patient deaths” making health care workers (HCWs) at high risk of work to family conflict (WFC) (Mullen, 2016). There are several work place predictors that could influence WFC/FWC (family to work conflict) spillover among HCWs (Polat et al., 2018).

The current work studied the sociodemographic characteristics and home responsibilities that are predictors of WFC/FWC and found that the majority of the studied participants were married, some nurses were caring for individuals with special needs, but most of them have a supportive family member. Nearly half of studied participants had Moderate level negative family to work spillover and negative work to family spillover (Table1, 2). Several studies reported that presence of family support especially husband, are negatively correlated to WFC as this support leads to less stress and discomfort associated with family and work roles (Patel et al.,2006; Lapierre,2008; and

Drummond et al.,2016).

The results of the current study are in line with a study that measured effects of family antecedents on WFC among 191 Italian nurses and demonstrated that family support has a protective effect on WFC (Gonnelli et al, 2018). Lack of assistance in household duties and children care are related to increase WFC (Takeuchi and Yamazaki 2010). Family embeddedness was related to negative FWC and WFC influencing individuals’ turnover intention (Li et al., 2019). Poor family supports are predictors for a high level FWC (Polat et al.; 2018). The above results prove the protective effect of family support against WFC/FWC.

The majority of studied participants experienced Low to Moderate decision authority and significant positive correlation was detected between work experience in years and decision authority and positive work to family spillover (Table3, 4). Low decision authority at work can be a hidden source for occupational stress. Working under stress especially among health care workers result in poor quality in health services they provide, low job satisfaction and mental health problems. Also, years of work experience positively affect decision

authority as experienced subject's benefits from increased skill variety and accumulated work experience compared to non-experienced subjects (Zayed et al., 2021).

The current study showed a significant positive correlation between number of shifts/week and negative WFC spillover and negative FWC (Table 4). This coincides with other studies that showed negative effect of number of shifts on WFC and FWC as the work of Estryn- Béhar et al., 2012 in Europe, Leineweber et al.,2013 in Sweden and Asiedu et al.,2018 in Ghana. Contrary to a cross-sectional study among staff and nurses in Florida detected that long shift length significantly predicts higher WFC but not FWC (Raffendaud et al., 2019). This can be attributed to that the majority of participants being married female nurses, taking very long shift hours without child care support made them caught between the demands of their workplace and their families. Women are expected to fulfill their primary roles in families but, their roles in workplace are always secondary. In contrast to our results Gonnelly et al., 2018 explored the influences of work schedules on WFC and FWC

among 191 Italian nurses and found that, shift work affected WFC only. Also, other studies reported that shift work was an important antecedent of WFC (Costa, 2010; and Kunst et al.,2014). Shift work particularly night shift intensifies (WFC) by decreasing time available for family and leisure activities to nurses. In the Egyptian Labor Law, the maximum working hours per day are 8 hours, or 48 hours per week in case of a six-day work week (Decree (80) of the Egyptian Labour Law No 12-year 2003). However, an employee, occasionally may be required to work additional hours based upon need, and may stay at the work place for more than 10 hours a day, providing her or his stay should not exceed twelve hours a day. (Decree (82) of the Egyptian Labour Law No 12-year 2003). Thus, health care leaders and managers in hospitals should consider shifts not exceed 12 hours under any circumstances.

Good work arrangements that offer learning new skills, decision authority, tolerable work demands, co-worker and supervisor support had positive impact on both WFC and FWC spillover (Zayed et al., 2021). This is in line with other study that indicated that employees applying work

arrangements as malleable schedules found to be more satisfied in their job and experienced less WFC and that their relations with their children had improved (Lee et al. 2002).

The present research work demonstrated positive significant correlation amongst work experience and positive WFC and decision authority but, negative significant correlation between experience in work and negative FW (Table 4). These results are in line with the results of Polat et al (2018) who conducted a cross-sectional study on 329 nurses at a university hospital in Turkey; and found that lack of work experience is predictive for a high (FWC) and negative correlation was detected between working years and WFC scored. These comparable results may be attributed to the fact that both studies were carried out in university hospitals, comparable sociodemographic characters of the studied population.

Work demands in the present study were Moderate with positive correlation with number of shifts/weeks. Negative work to family spillover and negative family to work spillover had a significant positive correlation with demands of work (Table 4, 5). These

results agreed with other researches works that reported such correlation between high job demands and negative WFC both directly and indirectly (Pal, 2012; Leineweber, et al., 2016, ; and Ghislieri, et al.,2017) . Comparable results were found in a study that examined the impact of job dimensions as (high work demands and work overload) on WFC among hospital nurses in Sweden (Lembrechts et al., 2015). Highly demanding stressful work situations shrink the time available for family; leading to increased probability of WFC.

But negative significant correlation was detected between negative work to family spillover and decision authority (Table5), which coincides with the work of Pal (2012); in his study on work-family conflict among Indian doctors and nurses and that of Ding et al. 2018 on their work on Chinese nurses.

Most of the studied participants had Moderate to High degree of supervisor's support. Significant positive correlation was present between positive family to work spillover, positive work to family spillover, and supervisor's support. But significant negative correlation was present between negative family to work

and negative work to family spillover (Table5). Similar studies found that low supervisor support is accompanied by high WFC (Camerino et al., 2010; Cortese et al., 2010; Lembrechts et al., 2015, and Ghislieri, et al.,2017). They found that supervisor/co-worker support was the most important factor in reducing WFC. Presence of managerial, supervisor and co-worker support reduce the strain the subject experiences in work and increases opportunities for family and leisure time. These findings are supported by other researches that showed that job characteristics and work climate have positive effect on WFC spillover (Taylor et al., 2009; Odle-Dusseau et al., 2012; and Crain & Hammer, 2013).

Conclusion

Nearly half of the studied participants had Moderate degree negative family to work spillover and negative work to family spillover. Several familial and workplace predictors were the main sources of WFC/FWC. Statistically significant negative correlation was identified between work features as; decision authority, support from coworkers, supervisors and negative WFC. Significant positive correlation was identified between work demands

and negative WFC and FWC.

Recommendations

In order to have a healthy work place and when one is planning for occupational health and safety health-care administrators should take these results into consideration and action plans should be implemented seriously to diminish FWC / WFC amongst HCWs through, supportive friendly work place environments, the design of jobs focused on reducing work load, shifts do not exceed 12 hours, flexible working schedule, increasing decision authority and family-oriented policies in hospitals should be improved. Counseling services should be provided to improve nurses 'skills to cope with WFC. Also, spousal support plays critical role in minimizing the unfavorable outcome of these conflicts. Thus, managing and handling this conflict effectively are very strategic and important

Conflict of Interest

The authors declared that there is no conflict of interest related to this paper.

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References

1. Abdo S, El-Sallamy R, El-Sherbiny A and Kabbash I (2015): Burnout among physicians and nursing staff working in the emergency hospital of Tanta University, Egypt. *EMHJ*; 21(12):906- 15.
2. Ahmad A (2008): Direct and indirect effect of work-family conflict on job performance. *JIMSJ*; 3(2):176- 80.
3. Al Azzam M, AbuAlRub RF, and Nazzal AH (2017): The relationship between work-family conflict and job satisfaction among hospital nurses. *Nurs Forum*; 52(4):278–88.
4. Alhani F and Mahmoodi GR (2018): Work family conflicts as stressors in the life style of nurses: A content analysis. *JNMS* ; 5(3):79-88.
5. Anafarta N (2011): The Relationship between Work-Family Conflict and Job Satisfaction: A Structural Equation Modeling (SEM) Approach. *IJBM*; 6 (4):168- 77.
6. Asiedu E, Annor F, Amponsah TK, and Dartey BK (2018): Juggling family and professional caring: Role demands, work-family conflict and burnout among registered nurses in Ghana. *Nurs Open*; 5(4): 611– 20.
7. Beauregard AT (2006): Are Organizations shooting themselves in the foot? Work place contribution to family-to-work conflict. *EOIJ*; 25(5): 336- 53.
8. Camerino D, Sandri M, Sartori S, Conway M, Campanini P, et al. (2010): Shift work, work-family conflict among Italian nurses, and prevention efficacy. *Chronobiol Int J*; 27(5): 1105–23.
9. Cortese CG, Colombo L, and Ghislieri C (2010): ‘Determinants of Nurses’ Job Satisfaction: The Role of Work-Family Conflict, Job Demand, Emotional Charge and Social Support. *J NM*; 18 (1): 35-43.
10. Costa G (2010): Shift Work and Health: Current Problems and Preventive Actions. *Saf health work*; 1(2): 112- 23.
11. Crain TL, and Hammer LB (2013): Work-family enrichment: A systematic review of antecedents, outcomes, and mechanisms. In A. B. Bakker (Ed.). *Advances in positive psychology* (pp. 303–328). Bingley: Emerald. <https://www.emerald.com/insight/content/doi/10.1108/S2046>
12. Ding X, Yang Y, Su D, Zhang T, Li L, et al. (2018): Can job control ameliorate work-family conflict and enhance job satisfaction among Chinese registered nurses? A mediation models. *Int J Occup Environ Med*; 9(2):97-102.
13. Drummond S, O’Driscoll MP, Brough P, Kalliath T, Siu OL, et al. (2016): The relationship of social support with well-being outcomes via work–family conflict: Moderating effects of gender dependents and nationality. *Human Relations J*; 70 (5):544– 65.
14. Egypt -Labour Code (No.12 of 2003) -ILO: Decree (80), Decree (82) <https://www.ilo.org/dyn/natlex/natlex4.detail>
15. Estryn- Be’har M, and Van der Heijden B(2012): Effects of extended work shifts on employee fatigue, health, satisfaction, work/family balance, and patient safety. *Work J*; 41(1) :4283–90.
16. Fasbender U, Van der Heijden B and Grimshaw S (2019): Job satisfaction, job stress and nurses’ turnover intentions: The moderating roles of on –the-job and off-the-job embeddedness. *J Adv Nurs* ; 75(2):327-37.
17. Ghislieri C, Gatti P, Molino M, and Cortese C (2017): Work-family conflict and enrichment in nurses: Between job demands, perceived organizational support and work-family backlash. *Nurs Manag J*; 25(1):65-75.
18. Gonnelli C, Agus M and Raffagnino R(2018): Work-Family Conflict in Nursing: The Role of Work Schedules, Familial Antecedents and

- Emotional Regulation. *OJMP* ; 7 (4):123-47.
19. Janzen BL, Muhajarine N, and Kelly IW (2007): Work-family conflict, and psychological distress in men and women among Canadian police officers. *Psychol Rep*; 100 (2): 556-62.
 20. Kottwitz MU, Grebner S, Semmer NK, Tschan Fand Elfering A (2014): Social stress at work and change in women's body weight. *Ind Health*; 52(2):163–71.
 21. Kunst JR, Løset GK, Hosøy D ,Bjorvatn B , Moen BE , et al. (2014): The Relationship between Shift Work Schedules and Spillover in a Sample of Nurses. *Int J Occup Saf Ergon*; 20(1): 139-47.
 22. Lapierre LM, Spector PE, Allen TD, Poelmans S, Cooper CL, et al. (2008): Family- supportive organization perceptions, multiple dimensions of work-family conflict, and employee satisfaction: A test of model across five samples. *J Vocat Behav*; 73(1):92–106.
 23. Lee MD, MacDiarmid SM, Williams ML, Buck ML and Leiba-O'Sullivan S (2002) Contextual factors in the success of reduced-load work arrangements among managers and professionals. *Hum Resour Manag* ;41(2):209–23
 24. Leineweber C, Chungkham HS, Westerlund H, Tishelman C, and Lindquist R(2014): Hospital organizational factors influence work family conflict in registered nurses: Multilevel modeling of a nation-wide cross-sectional survey in Sweden. *Int J Nurs Stud Adv*; 51(5): 7441-51. Lembrechts I, Dekocker V, Zanoni P and Pulignano V (2015): A study of the determinants of work-to-family conflict among hospital nurses in Belgium. *J Nurs Manag*; 23(7):898-908.
 25. Li D, Li X, Wang L, Wang G and Newton C (2019): Work–family conflict influences the relationship between family embeddedness and turnover intention. *SBPJ*; 47(4): 1-13
 26. Luckhaupt SE, Cohen MA, Li J and Calvert GM (2014): Prevalence of obesity among U.S. workers and associations with occupational factors. *Am J Prev Med*; 46 (3):237–48.
 27. Mullen K (2016): Barriers to work-life balance for hospital nurses. *Workplace Health Saf* ; 63(3):96-9.
 28. National study of Health and Wellbeing (2004): Documentation of scales in MIDUS I. Midlife in the United States. University of Wisconsin, Institute on Aging. March 2004. Available at: <http://www.midus.wisc.edu/midus1/documentationofscales.pdf>. Accessed on April 2019.
 29. Netemeyer, RG, Boles JS and Mc Murrian, R (1996): 'Development and Validation of Work-Family Conflict and Family-Work Conflict Scales. *J Appl Psychol*; 81 (4):400-10.
 30. Odle-Dusseau HN, Britt TW, and Greene-Shortridge TM (2012): Organizational work family resources as predictors of job performance and attitudes: The process of work-family conflict and enrichment. *JOHP*; 17(1): 28–40.
 31. Pal S (2012): A qualitative inquiry into work-family conflict among Indian doctors and nurses. *Work J*;42(2): 279–88.
 32. Patel CJ, Beekhan A, Paruk Z and Ramgoon S (2008): Work-family conflict, job satisfaction and spousal support: an exploratory study of nurses' experience. *J Ind Psychol; Curationis*; 31 (1):38–44.
 33. Polat S , Kutlu L , Ay F , Erkan H and Doğrusöz L(2018): Relationship between work-family conflict, organizational silence and social support in nurses at a university hospital. *J Psychiatric Nurs*; 9(3):195-204.
 34. Raffendaud A, Unruh L, Fottler M, Lieu A and Andrews D (2019): A comparative analysis of work family conflict among staff, managerial, and executive nurses. *Nursing Outlook*; 68(2):231-41.
 35. Ramesh A, and Gelfand MJ (2010): Will they stay or will they go? The role of job embeddedness in predicting turnover in individualistic and collectivistic cultures. *J Appl Psychol*; 95(5): 807–23.

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36. Takeuchi T and Yamazaki Y (2010): Relationship between Work-Family Conflict and a Sense of Coherence among Japanese Registered Nurses. *JJNS*; 7(2): 158-68.
 37. Taylor R, DelCampo R, and Blancero M (2009): Work-family conflict/facilitation and the role of work place supports for US Hispanic professionals. *J Organiz Behav*; 30: 643–64.
 38. Warokka A and Febrilia I (2015): Work-Family Conflict and Job Performance: Lesson from a Southeast Asian Emerging Market. *JSAR*;5(1):1-14
 39. Zayed HA, Kabbash IA, Sallamy RM and Abdo SA (2021): Work environment characteristics as determinants of work to family conflict among working females, Egypt. *ESPR*; 28: 43985–91.