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Family and Work Related Stress, Social Support and Stress Interventions by Nurses among Factory Workers in Selected Industries in Osun State. Nigeria

Omolola O. Irinoye PhD., RN
The Department of Nursing Science,
Obafemi Awolowo University (OAU),
Ile-Ife, Osun State. Nigeria

Tinuke Abimbola Oyedeji MSc., RN
International Breweries Plc.
Ilesa, Osun State. Nigeria,

Abstract:- The purpose of the study was to examine the association between family and work related stress and social support available to factory workers and to identify the roles of nurses in assisting workers cope with stress. Two hundred and thirty-eight (238) factory workers in a water factory, a bread and confectionery factory and a brewing industry in Osun State and 15 nurses providing services to the workers participated in the questionnaire survey. Majority of the factory workers (69.3%) experienced low level of family related stress and received high level of family social support. While 64.3% experienced moderate level of work related stress, 59.7% reported moderate level of workplace social support. Levels of work related stress and workplace social support were significantly associated (X^2=34.963, p=0.000), while levels of family related stress and family social support were not (X^2=2.176, p=0.703). Significant association was found between number of dependents and levels of family related stress (X^2=19.540, p=0.012) and between grade level and levels of work related stress (X^2=16.322, p=0.012). Both gender and type of employment were significantly associated with work related stress (X^2=28.095, p=0.000 & X^2=40.365, p=0.000) and family related stress (X^2=7.123, p=0.028 & X^2=7.699, p=0.021) respectively. Nurses led interventions were well rated with organizational directed interventions rated more than individual directed interventions. However, data from the nurses revealed that stress interventions by the nurses were directed more at individual workers than at the organization (66.7%). There was no guideline for stress management in all organizations studied. A need for nurse-moderated standardized guideline for stress management among factory workers was found.

Keywords:- *Family Related Stress, Work Related Stress, Family Social Support, Workplace Social Support, Occupational Health Nurses.*

I. INTRODUCTION

Stress has become a well-known subject of concern among factory workers and employers. Work characteristics, processes and the working environment can be sources of stress to workers[1, 2]. It could be assumed that when workers return to their families, they would relax with family members, however, family roles and relationships can also constitute stress to workers[3, 7]. Stress among factory workers was reported in a study conducted in Hong Kong and China[4] in a developing country[5], and substantial percentage of musculoskeletal injuries was found among factory workers in Kano. Nigeria[6]. High level of stress has adverse effects on workers well being[7, 8]. Social support has been found to mitigate stress among workers. It has been shown to promote wellbeing and reduce the experience of stress among factory workers[9, 5]. This has also been found among other groups of workers[10, 8, 11-15]. Nurses who work in factories either as general practitioners and better still as occupational health nurses (OHNs), who in many cases are responsible for workers health care in Nigeria[16] have vital roles to play in providing support interventions for stress among workers. In Nigeria, nurses provide OH services in most work settings[16]. However, there is dearth of studies that evaluated stress, social support and the roles of OHNs in assisting workers to cope with stress in Nigeria. This study is therefore essential in generating empirical data for capacity building of OHNs to develop and implement evidence-based support interventions for stress control among factory workers.

II. SUBJECTS AND METHODS

A cross sectional study was conducted among workers in a water factory, a bread and confectionery factory and a brewing industry in Osun State, Nigeria. Multiple sampling techniques were used to select 238 workers that participated in the study. Census technique was used to sample 41 and 10 staff in the water factory and the bread and confectionery factory respectively. Multistage sampling method by department and gender was used in selecting 187 workers determined by Watson equation with 10% attrition rate from a total of 292 workers in the brewing industry. All nurses providing care to workers in the 3 settings (n= 42) were targeted. Same set of nurses (n= 38) provide care services to workers in the water factory and the bread and confectionery factory as they make use of same health center located close to the two factories, while workers in the brewing industry receive basic care and treatment from nurses in the factory in-house clinic (n=4). 11 out of the 38 nurses working in the health center and all the 4 nurses working in the brewing industry responded, thus, a total of 15 (36%) of the nurses targeted responded. All the nurses have basic Registered Nurse (RN) qualification and have worked in their settings for a minimum of one year. The first part of the questionnaires contained demographic information of respondents. The questionnaire for factory workers evaluated their experience of family and work related stress, and family and work related social support over a period of 3 months. What they perceived as the roles of occupational health nurses in assisting them to cope with stress were also explored. Work related stress was measured with 21 question items which measured work demands, physical agents at work, apparatus and machine, roles and decision latitude, learning opportunities and job security adapted from The Bristol Stress and Health at Work Study scale of occupational stress[17]. Family related stress questions were 12 items that measured stress in the family related to sickness/disability, spousal relationship/needs, children relationship/needs, accommodation needs, financial problems, need for support and death of a loved one adapted from The Family Stress and Coping Interview[18]. Workplace social support involved measurement of (1) organizational, (2) supervisor and (3) co-worker support, using 12 items (4 items in each section) adapted from the Perceived Organizational Support Scale[19], Multidimensional Perceived Supervisor Support Scale[20] and Co-worker Social Support Scale[21] respectively. Family social support questions were 8 items that measured companionship, informational, tangible and emotional supports in the family adapted from the Medical Outcome Study Social Support Survey[22]. Scores on each scale were graded as low level, moderate level and high level of the variable measured. Perceived roles of nurses in assisting factory workers to cope with stress was measured using test items developed from review of literatures that explored individual (personal) and organizational (work) directed interventions by nurses. The questionnaire for the nurses obtained data on the roles of nurses in support interventions for stress among workers using items adapted from the Finnish Occupational Health Nurses' View of Work-Related Stress used in a cross-sectional Study[23]. The questionnaires were pilot tested and modified. Reliability was confirmed through Cronbach alpha test, scores ranged between 0.7- 0.9. The questionnaires were distributed to factory workers during their meetings and break periods, while questionnaires were given to nurses in their offices to fill during their free periods. Information on the purpose of the study and instructions on how to complete the questionnaires were given. All factory workers returned the questionnaire, while the response rate among the nurses was 36%. The study was approved by the Institute of Public Health, Obafemi Awolowo University, Ile-Ife. Statistical analysis was carried out using SPSS version 16. Statistical methods used were descriptive analysis, Pearson correlation and Pearson chi square test of association with significance level of $P < 0.05$. Levels of family and work related stress were ranked by the significant independent variables using Kruska Wallis H test. Age was included regardless of its significance.

III. RESULTS

There were 116 males to 62 females thus giving a male: female ratio of 1.87:1 among the factory workers. Mean age was 33.5. Many (69.7%) were married and 73.1% have 4 or more persons who depend on them for financial support (Table Ia). Majority (76.5%) worked in the technical department (Table 1b). Among the nurses, mean age was 41.5 with a male to female ratio of 4:11. Majority (80%) were married with 46.7% who were registered nurses with other post-basic qualifications. Only 11 out of the 38 nurses working in the health center responded. The center is more into primary health care than occupational health, hence the low response rate. However, the in-house clinic in the brewing industry is mainly occupational health focused.

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Socio-demographic characteristics of respondents	Frequency	
	n	Percentage
Age (Years)		
20-29	76	31.9
30-39	101	42.4
40-49	53	22.3
50-59	8	3.4
Gender		
Male	176	73.9
Female	62	26.1
Marital Status		
Single	70	29.4
Married	166	69.8
Separated/Divorced	2	0.8
Ethnicity		
Yoruba	200	84.0
Ibo	36	15.2
Hausa	2	0.8
Highest Educational Status		
Primary	1	0.4
Secondary	33	13.9
Technical	33	13.9
Tertiary	171	71.8
No of persons given financial support		
None	14	5.9
1 to 3	50	21.0
4 to 6	71	29.8
7 to 9	50	21.0
More than 9	53	22.3

TABLE Ia.
n - Number of subjects affected by variable.

Work related socio-demographic characteristics of respondents	Frequency	
	n	Percentage
Type of Employment		
Permanent	200	84.0
Temporary/Contract	38	16.0
Nature of Employment		
Administrative	56	23.5
Technical	182	76.5
Department		
Technical	182	76.5
Finance/Audit	12	5.0
Human Resources	17	7.1
Commercial	24	10.1
ICT	3	1.3
Grade Level		
Junior	91	38.2
Senior	85	35.7
Manager	24	10.1
Contract Staff	38	16.0
Average length of working hours per week		
40 hours	93	39.1
41-60 hours	109	45.8
61-80 hours	29	12.2
80 hours or more	7	2.9

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Earning per month		
Less than N 100,000	136	57.1
N 100,000 - N 200,000	78	32.8
N 200,000 - N 300,000	15	6.3
N 300,000 - N 400,000	8	3.4
Above N 400,000	1	0.4

TABLE Ib.
n - Number of subjects affected by variable.

➢ *Family Related Stress*

Most (69.3%) of the factory workers experienced low level of family related stress, while 29% experienced moderate level (Fig. 1). Frequently experienced form of family related stress among 13.9% was not having enough money to meet family needs (Table II).

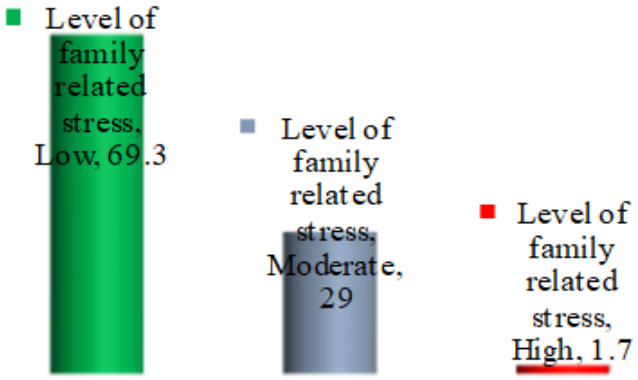

Fig. 1: Distribution of respondents by levels of family related stress

Distribution of respondents by types of family related stress experienced	**Frequency**			
	Frequently n (%)	**Sometimes n (%)**	**Rarely n (%)**	**Never n (%)**
A family member has been sick or has health problems	8(3.4)	52(21.8)	39(16.4)	139(58.4)
My spouse/partner usually found faults with me	11(4.6)	45(18.9)	68(28.6)	114(47.9)
My spouse/partner can be violent with me if angry	1(0.4)	45(18.9)	52(21.8)	140(58.9)
I am afraid my spouse can divorce me	8(3.4)	13(5.5)	19(8.0)	198(83.2)
I have child/children who usually disobey me	3(1.3)	16(6.7)	24(10.1)	195(82.0)
My child/children usually fight with one another	1(0.4)	26(10.9)	40(16.8)	171(71.9)
I have to live separated from my family and those I love	26(10.9)	36(15.1)	24(10.1)	152(63.8)
My family has just relocated to a new area	9(3.8)	25(10.5)	37(15.5)	167(70.2)
I don't have enough money to meet the needs of my family	33(13.9)	99(49.6)	45(18.9)	61(25.6)
I have to take care of too many people	23(9.7)	74(31.1)	81(34.0)	60(25.2)
My family problems are more than I can handle	5(2.1)	32(13.4)	59(24.8)	142(59.2)

TABLE II.
n - Number of subjects affected by variable.

➢ *Work Related Stress*

Level of work related stress was moderate among many (64.3%) but high among 27.7%. Frequently experiencedwork related stress by majority (76.9%) waengaging in works that require high concentration, 64.2% frequently work in a noisy environment, while 62.6% frequently engage in works that require high level expertise.

Work Related Stress

Level of work related stress was moderate among many (64.3%) but high among 27.7% (Fig. 2).

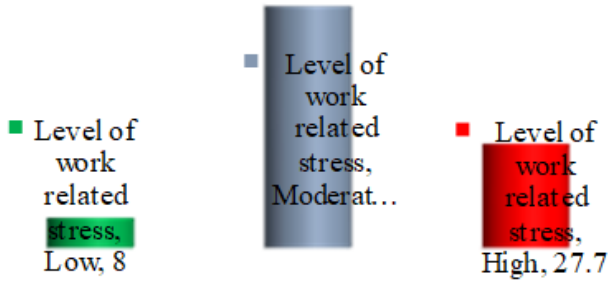

Fig. 2: Distribution of respondents by levels of work related stress

Frequently experienced work related stress by majority (76.9%) was engaging in works that require high concentration, 64.2% frequently work in a noisy environment, while 62.6% frequently engage in works that require high level expertise (Table III).

Distribution of respondents by types of work related stress experienced	**Frequency**			
	Frequently n (%)	**Sometimes n (%)**	**Rarely n (%)**	**Never n (%)**
Do you have enough time to do your tasks?	53(22.3)	134(56.3)	44(18.5)	7(2.9)
Does your work require high concentration?	183(76.9)	39(16.4)	12(5.0)	4(1.7)
Does your work demand high level expertise?	149(62.6)	65(27.3)	21(8.8)	3(1.3)
Do you have to do something over and over again?	64(26.9)	133(55.9)	34(14.3)	7(2.9)
Do you have constant time pressure due to your heavy workload?	74(31.1)	111(46.6)	34(14.3)	19(8.0)
Do you have many interruptions and disturbances on your job?	42(17.6)	115(64.2)	58(24.4)	23(9.7)
Are you often under pressure to work extra hours/overtime?	63(26.5)	92(38.6)	46(19.3)	37(15.5)
Do you work at night?	85(35.7)	50(21.0)	36(15.1)	67(28.2)
Do you have to work for long hours?	98(41.2)	69(29.0)	46(19.3)	25(10.5)
Can you be called to work during your off periods?	56(23.5)	101(42.4)	49(20.6)	32(13.4)
Are you exposed to fumes, dust or other harmful substances at work?	67(28.2)	78(32.8)	33(13.9)	60(25.2)
Do you work in a noisy environment?	129(64.2)	50(21.0)	26(10.9)	33(13.9)
Does the equipment e.g. machine, computer you work with usually develop faults?	45(18.9)	125(64.5)	42(17.6)	26(10.9)
Can the machine or equipment that you work with harm you if you are not careful?	69(29.0)	73(30.7)	64(26.9)	32(13.4)
Do you have to bend, climb or strain yourself when operating your machine?	91(38.3)	66(27.7)	36(15.1)	45(18.9)
Are you involved in decision making about your work?	49(20.6)	108(45.4)	45(18.9)	36(15.1)
Can you change your work pattern as long as set goals are achieved?	33(13.9)	105(44.2)	62(26.1)	38(16.0)
Do you have a say in choosing who you work with?	20(8.4)	67(28.2)	50(21.0)	101(42.4)
Can you observe your holidays/ leave when you wish?	58(24.4)	90(37.8)	61(25.6)	29(12.2)
Do you have opportunities to learn new things at work?	96(40.4)	88(37.0)	37(15.5)	17(7.1)
Are you afraid of losing your job?	19(8.0)	65(27.3)	65(27.3)	89(37.4)

TABLE III.

n - Number of subjects affected by variable.

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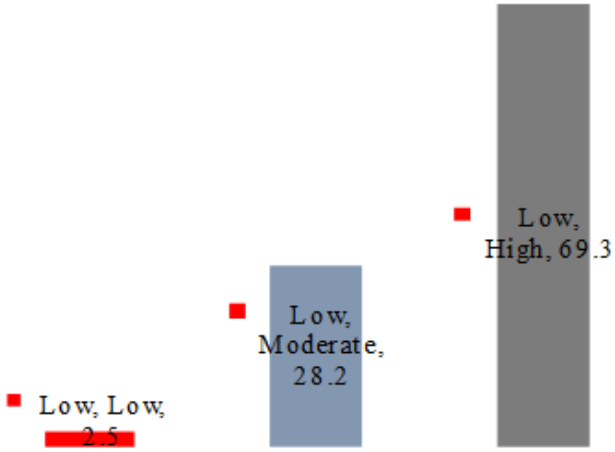

Fig. 3: Distribution of respondents by levels of family social support

➢ *Family social support*

28.2% have moderate level. Only 2.5% have low level of family social support (Fig. 3). Emotional support was the highest type of family social support experienced by most (66.4%) followed by companionship support (64.3%) (Table IV). The form of emotional support frequently experienced by 65.5% was love and affection from family members, while having someone to have a good time with was the frequently experienced form of companionship support among 54.2%.

Distribution of respondents by type of social support experienced	**Levels of family social support**		
	Low n (%)	**Moderate n (%)**	**High n (%)**
Companionship Support	8(3.4)	77(32.4)	153(64.3)
Informational Support	10(4.2)	98(41.2)	130(54.6
Tangible Support	18(7.6)	114(47.9)	106(44.5)
Emotional Support	4(1.7)	76(31.9)	158(66.4)

TABLE IV.

n= Number of subjects affected by variable

Distribution of respondents by the type of family social support experienced	**Frequency**			
	Frequently n (%)	**Sometimes n (%)**	**Rarely n (%)**	**Never n (%)**
Someone to have a good time with	129(54.2)	88(37.0)	13(5.5)	8(3.4)
Someone to get together with for relaxation	106(44.5)	91(38.2)	28(11.8)	13(5.5)
Someone to give you information to help you understand a situation.	105(44.1)	102(42.9)	26(10.9)	5(2.1)
Someone to give you good advice about a crisis or personal problems	115(48.3)	91(40.8)	17(7.1)	9(3.8)
Someone to help you if you were confined to bed	104(43.7)	75(31.5)	33(13.9)	26(10.9)
Someone to help with daily chores if you require it	69(39.0)	111(46.6)	41(17.2)	17(7.1)
Someone who shows you love and affection	156(65.5)	56(23.5)	19(8.0)	7(2.9)
Someone to love you and make you feel wanted	150(63.0)	63(26.5)	21(8.8)	4(1.7)

(Table V).

n= Number of subjects affected by variable

➢ *Workplace Social Support*

Most (59.7%) have moderate level of workplace support, 34% have high level, while 6.3% have low level (Fig. 4). Co-worker support was the highest type of workplace support available to most (66.4%), while 58.8% experienced high level of supervisor support and moderate level of organizational support. Only 31.9% indicated experience of high level of organizational support (Table VI).

Fig. 4: Distribution of respondents by levels of workplace social support

Distribution of respondents by the level of each type of workplace social support experienced	Levels of workplace social support		
	Low n (%)	Moderate n (%)	High n (%)
Organizational support	22(9.2)	140(58.8)	76(31.9)
Supervisor support	15(6.3)	83(34.9)	140(58.8)
Co- worker support	14(5.9)	66(27.7)	158(66.4)

TABLE VI.

Frequently experienced support from co-workers by many (34.9%) was in the form of giving helpful information and advice, while the lowest form was practical assistance. All forms of co-worker support measured were sometimes provided to over 50% of the respondents (Table VII). The form of supervisor support frequently experienced by many (48.3%) was in the form of listening to their concerns or problems', while the lowest was in the form of helping in practical ways (Table VIII).

Distribution of respondents by the types of workplace co-worker support experienced	Frequency			
	All the time n (%)	Sometimes n (%)	Rarely n (%)	Never n (%)
Helpful information or advice	83(34.9)	125(56.7)	13(5.5)	7(2.9)
Sympathetic understanding and advice	55(23.1)	133(55.9)	42(17.6)	8(3.4)
Clear and helpful feedbacks	58(24.4)	134(56.3)	30(12.6)	16(6.7)
Practical assistance	50(21.0)	122(51.2)	45(18.9)	21(8.8)

TABLE VII.
n= Number of subjects affected by variable

Distribution of respondents by the type of workplace supervisor support experienced	Frequency			
	All the time n (%)	Sometimes n (%)	Rarely n (%)	Never n (%)
Listening to your concerns or problems	115(48.3)	93(39.1)	29(12.2)	1(0.4)
Giving you advice about how to solve problems	63(28.5)	140(58.8)	29(12.2)	6(2.5)
Helping you in practical ways	5(2.7)	112(47.1)	55(23.1)	17(27.1)
Showing interest in your family well-being	48(18.1)	88(37.0)	52(21.8)	55(23.1)

TABLE VIII.
n= Number of subjects affected by variable

The type of organizational support frequently experienced by majority (82.3%) was in the form of valuing their contribution to the organization well-being, while the lowest was in the form of appreciation of their extra effort (Table IX).

Distribution of respondents by the types of workplace organizational support experienced	Frequency				
	Strongly Agree n(%)	Agree n(%)	Not Decided n(%)	Disagree n(%)	Strongly Disagree n (%)
The organization values your contribution to its well-being	61(25.6)	135(56.7)	25(10.5)	9(3.8)	8(3.4)
The organization fails to appreciate any extra effort from you	11(4.6)	87(36.6)	44(18.5)	71(21.8)	25(10.5)
The organization would ignore any complaint from you	11(4.6)	100(42.0)	46(19.3)	48(20.2)	33(13.9)
The organization really cares about your well-being	26(10.9)	107(45.0)	35(14.7)	57(23.9)	18(5.5)

TABLE IX.
n= Number of subjects affected by variable

- *Association between levels of family related stress, levels of work related stress and selected demographic variables*

Significant association (X^2 = 34.963, df = 4, p = 0.000) and a weak negative correlation (r = -0.244) was found between levels of work related stress and workplace social support, while a non-significant association (X^2 = 2.176, df =4, p = 0.703) but a weak negative correlation (r = -0.199) was found between levels of family related stress and family social support. Gender and type of employment (Technical or Administrative) were significantly associated with both work related stress and family related stress levels. Grade level is significantly associated with levels of work related stress, while number of dependents is significantly associated with levels of family related stress (Table X).

Association between levels of family related stress, levels of work related stress and respondents' general characteristics	Levels of family related stress	Levels of work related stress
	X^2 (P)	X^2 (P)
Age	NS	NS
Gender	7.123 (0.028)*	28.095 (0.000)**
Marital Status	NS	NS
Number of dependent	19.540 (0.012)*	NS
Nature of Employment	NS	NS
Type of Employment		40.365 (0.000)**
Grade Level		16.322 (0.012)*
Hours of Working		NS

TABLE X.
n= Number of subjects affected by variable

The Kruska Wallis test revealed highest mean ranking of family related stress among respondents aged 50-59 years, males, workers in the technical department and those with 7-9 dependents (Table XI). Highest mean ranking of work related stress was found among respondents aged 30-39 years, males, workers in the technical departments and those in the junior grade level (Table XII).

Kruska Wallis Ranking of family related stress by general characteristics	Frequency	
	n	Mean Rank
Age		
20-29	76	119.85
30-39	101	115.80
40-49	53	122.74
50-59	8	141.50*
Gender		
Male	176	121.10*
Female	62	114.96
Type of employment		
Technical	182	124.95*
Administrative	56	101.81
Number of dependents		
Nobody	14	108.07
1 - 3	50	113.27
4 – 6	71	109.88
7 – 9	50	134.48*
More than 9	53	127.15

TABLE XI.
* = Highest mean rank

Kruska Wallis Ranking of work related stress by general characteristics	Frequency	
	n	Mean Rank
Age		
20-29	76	110.62
30-39	101	128.37*
40-49	53	116.81
50-59	8	109.69
Gender		
Male	176	131.29*
Female	62	86.04
Type of employment		
Technical	182	132.27*
Administrative	56	77.99
Grade Level		
Junior	91	132.19*
Senior	85	122.19
Manager	24	111.65
Temporary staff	38	88.18

TABLE XII.
* = Highest mean rank

➢ *Nurses' Interventions for workers to cope with family and work related stress*

A range of 55% to 81.6% of the factory workers agreed that person directed support interventions by nurses will help them to cope with family and work related stress. High percentage ranging between 61.8% and 95.7% indicated that organizational-directed interventions by nurses will assist them in coping with family and work related stress (Fig. 5). Among the OHNs, many (66.7%) indicated understanding of the concept of stress among workers, while majority (80%) stated that they needed more information on stress. No standardized guideline for the assessment and management of stress among workers was found, 66.7% indicated assessment of stress was basically by history taking and general health assessment when workers present at the health facility. Stress management activities were mostly directed at individual workers when they present at the health facilities and include evaluation of coping mechanisms, counseling, health education and granting few day excused duty. Organizational directed

interventions by nurses included liaising for regular leave periods, prevention of high workload and encouraging adequate remuneration. Nurses working in the involved private setting engaged in psychosocial health risk assessment and control among workers. More than average percentage (53.4%) considered stress management as a responsibility to be shared by all, while 26.7% considered it to be management duty. Majority (86.7%) indicated need for effective collaboration between nurses and organization management, while 80% opined that the existing collaboration can be improved.

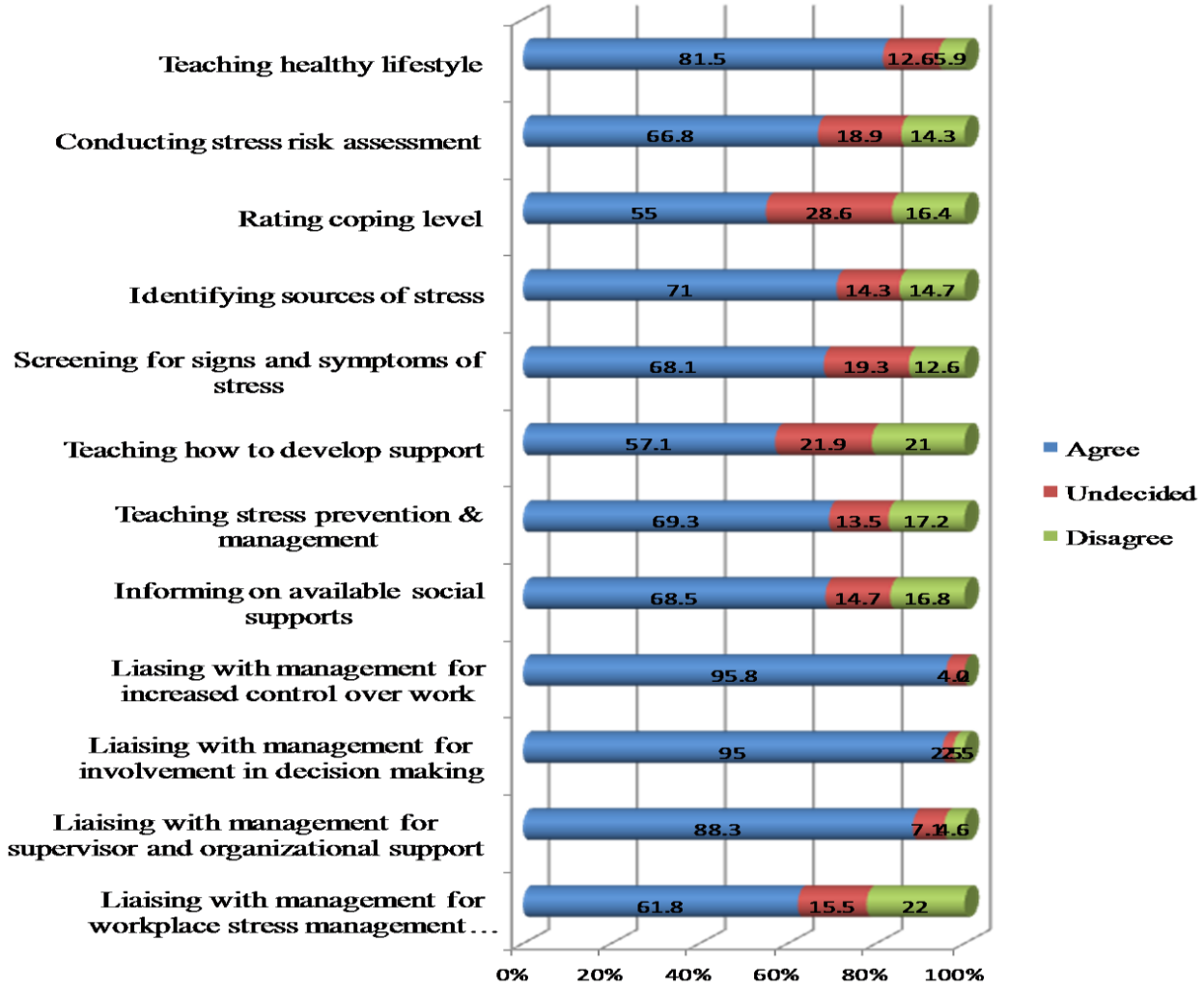

Fig. 5: Distribution of respondents by perceived roles of nurses in assisting respondents to cope with family and work related stress

IV. DISCUSSION

Stress is a phenomenon that should not be taken for granted among workers because of the health consequences. Most workers in middle adulthood and growing towards older age categories have family responsibilities that accompany work obligations, hence the need to explore how both compliment or contribute to health attainment among workers. This study affirmed high level of family social support also linked low level of family related stress reported by many. Emotional support and companionship support are the mostly available family social support possibly because, many of the respondents are married, they are likely to have spouses who show them love and keep their companies. Also, as shown in this study, majority of the workers experience moderate to high level of work related stress, therefore, having family members who love them and spend time with them may be important for relaxation. This agrees with a review and a similar study which reported that family support promotes wellbeing and emotional support is an important dimension of family support[24, 25].

Co-worker support is the mostly available workplace social support possibly because of the hierarchical structure of organizations. Workers in same cadre usually have good interpersonal relationship and are likely to find it easier to seek support from one another than from others in a higher

hierarchy. Among the types of co-worker support, the most frequently provided is 'giving helpful information or advice', while the lowest is 'giving practical assistance'. This could be linked to the bureaucratic nature of organizations where each worker has specific roles and targets that must be met during a work period. It may therefore be difficult for a worker to leave his duties in order to offer practical assistance to a colleague. Having high level of co-worker support has been shown to reduce experience of stress and increase job performance among workers[26-28].

Supervisors, by the nature of their duty, are expected to provide guidance to subordinates, hence the frequently provided support by supervisors to respondents is in the form of 'listening to their problems'. Also, since many of the workers have high level of co-worker support, they are likely to seek support from their supervisor only when they have problems that colleagues cannot resolve.

The organizations support workers mainly by valuing their contribution to its well-being. This may be a reflection of various recognition awards and prizes given to employees for their outstanding performances which is a usual practice in the industry where majority of the workers were selected.

Level of work related stress was moderate to high, despite that the level of workplace support was also moderate to high among many. The level of work related stress reported may be an indication that the type or level of the measured workplace support was not appropriate for individual employee[29]. This corroborates studies which reported that the effectiveness or helpfulness of social support depend on the type of support provided[30], nature of employment[31] and the source of support[15]. Furthermore, this finding may be an indication that workers are exposed to other stressful conditions outside the workplace which heighten their experience of work related stress[13, 32].

Males have higher levels of family and work related stress than females. This could relate to societal pressure on men as a result of the cultural and religious belief that a man is the head of the family who is expected to meet the needs of family members who are more than four in most cases as found in this study. They may engage in multiple jobs in order to meet the needs of the family. This agrees with a study among licensed counselors that reported significant difference on the level of stress by gender[33].

Workers in the technical department also have higher levels of family and work related stress than those in the administrative units. This is possibly because most workers in the technical department work on shift basis including night shift which affect their family and marital responsibilities[1]. They engaged in repetitive procedures, work in a noisy environment and strain self when operating machines.

Junior workers have higher levels of work related stress than supervisors and managers possibly because they are the shop floor workers. They can also perceive stress differently due to the fact that they occupy the lowest cadre in the organization with limited control and decision-making power [34]. High level of family related stress found among workers with 7-9 dependents when compared with workers with fewer dependents opposes a similar study where number of children has no significant difference on level of stress[33].

Levels of work related stress and workplace social support were significantly associated and negatively correlated, showing that increasing workplace support will reduce experience of work related stress among workers. Findings agree with studies that reported inverse relationship between work related stress and co-worker support[26, 28], supervisor support[30, 35, 28] and organizational support[10]. It is also in accordance with a similar study conducted among factory workers[9] and other groups of workers[36, 37] which found that increasing workplace support reduces stress level among workers.

Many of the workers have positive opinion and highly-rated the roles nurses can play to assist them in coping with family and work related stress. Teaching on healthy lifestyle is the form of individual directed intervention indicated by majority of the respondents. This could be linked to the finding among the nurses that health education is one of the basic support interventions commonly given to clients with stress. This agrees with the report that stress intervention programmes usually commence with an educational phase, in which participants learn about the causes and consequences of occupational stress[38].

More workers desired organizational directed interventions by nurses than individual directed interventions in assisting them to cope with stress. This may be linked to the fact that organizational support is the lowest form of workplace support available to respondents among the types of workplace support measured. This also shows that workers have the view that organizational directed interventions would have greater mitigating impact on their experience of stress than individual directed interventions. Almost all the respondents indicated that nurses can assist them in coping with stress by liaising with the organizations for increased control over work and involvement in decision making. This may be due to the fact that the form of work related stress frequently experienced is high work pressure. Giving employee some degree of control and involving them in making decisions will provide some degree of flexibility in work pattern. Majority also stated that nurses can help by liaising for increased supervisor and organizational control. This corroborates a literature review which showed that some of the key factors associated with illness among workers are lack of control over work, lack of participation in decision making and poor social support[35]. It also supports studies where it was found that workers degree of independence is associated with level of stress[39].

Although, this study shows that workers anticipate the input of OHNs in assisting them to cope with stress, no standard guideline for the assessment and management of

stress was found among the nurses. Majority of the nurses need more information on stress management among workers. Stress interventions were directed more at the affected individual worker than at the organization. Findings agree with that of Kinnunen-Amoroso & Liira (2014), Natasha, David, Maureen & Carol (2004) & Kinnunen-Amoroso (2011) [23, 40-41]. A combination of person-focused and organization-focused approaches is the most promising[42].

V. IMPLICATIONS FOR PRACTICE

Most factory workers experience stress at work which can be mitigated by optimal level of workplace programme and social support. While factory workers receive some degree of workplace support from co-workers, supervisors and the organization, they still look forward to the support interventions by OHN in helping them to cope with stress. However, the quality of support interventions given by OH nurses cannot be determined as no standardized guideline for the assessment and management of stress among factory workers is being used. There is therefore the need for development of a nurse- moderated standardized guideline that can be uniformly adopted by OHNs. Stress management using an evidence-based guideline should form a key part of OH nurses activities among factory workers.

More research work would be most desirable among other categories of workers in the State for focused intervention programmes for stress prevention and management among workers in other organized work environment and a large pool of artisans, who, though have workgroup associations but no organized work oriented stress prevention or other health promotion programmes in the study setting.

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