Scooping review tittle

"Stress and associated factor among nurses: implication for managers"

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ABSTRACT

Objective: The aim of this review is to identify the level of stress and associated factors among nurses in the light of previous studies.

Methods: Multiple sources were utilized which includes PubMed, CINAHL, Thomson Reuters, EMBASE, and EBSCO host. Total number of 40 articles were shown. After completely checking for any duplicates, a total number of 30 papers were there which were to be evaluated. After sorting everything another 11 papers were not included since they did not specify what was needed and 3 articles were those which were not utilized in respective general practice settings. The articles left which are 16 in number were read and checked if they fitted in the requirements. Out of these another six were excluded. The left number was only ten which are taken in this study.

Findings: The overall studies which have been included in this review indicated that the nurses suffer from different types and different rates of stress during their work in healthcare settings. In addition, there were different associated factors which lead to stress among them including demographic and other work-related factors.

Conclusion: It is evident that nurses all over the world suffer from work-related stress despite the level id not unified in the studies. Based on these data, the nurses should fine stress management technique to help them alleviate this problem. Nurse managers also should help the nurses to manage this problem they should not allow this problem to effect the health status of patients.

Key word: 'nurses, stress, stressful, nursing, staff, nursing staff, stress level.

Introduction

Stress has a huge impact on human health specially in workplaces. The American Institute of Stress found out stress to be responsible for 80% of health issues occurring at work places and causes 40% of workplace turnovers. (Sarafis et al., 2016) Due to stress, the body deteriorates in multiple ways. Diseases such as headache, blood pressure, heart problems, stroke, ulcers, etc. may occur. (Kumar et al., 2016).

In the nursing profession, stress is considered as a main element in the performance of nurses. They must manage different patients according to their needs keeping in mind the environment and the personal factors and to do their duties within the scope of nursing. (Kibria, 2018). Nurses may experience stress due to multiple reasons such as excessive load of work, long duty hours, difference of opinion with the doctors. They may face grave situations such as life and death which occur in the hospital setting. (Johan et al., 2017)

It was found out that nurses in Saudi Arabia expressed their concerns regarding the stress in work environment is more relative to nurses of other nationalities since they have longer working hours. (Almazan et al., 2019). According to a latest research, in government tertiary hospital settings, there was less amount of stress reported by the nurses. (Alharbi & Alshehry, 2019)

Nurses are one of the important people who are healthcare professionals. They play a significant role in the system. Their environment is very stressful because of different factors. One of which is the increased workload and a smaller number of working nurses. A total of 31.8% of the total nursing workforce is present in Saudi Arabia including both nationals and expatriates (Kumar et al., 2016). Stress has been found to damaging and considered as an occupational hazard since the mid-19th century and is one of the major causes of health issues. (Jennings, 2016)

Diseases such as headache, elevated blood pressure, heart problems, stroke, ulcers, etc. may occur due to prolonged duration of stress (Kumar et al., 2016). It can dramatically decrease the quality of life of a nurse which will directly affect the quality of care of the patient. (Sarafis et al., 2016).

If there is stress at a workplace, people will be used to of being absent from work and will leave their jobs which will affect the quality of healthcare. (Jennings, 2016)

Aim

The given review aimed to elaborate the factors associated with increase stress levels among nurses.

PICOT Question

PICOT	CONTENT	PICOT QUESTION
P	Nursing staff	Among nursing staff what is the associated factors that influence the stress level?
I	Not applicable	
C	Not applicable	
O	stress level	
T	No time	

Search Strategies:

The main aim of this review is to identify the level of stress and associated factors among nurses within the light of previous studies. Different databases were used for search strategy, and for systematic literature search, databases include: PuMed, CINAHL, Thomson Reuters, EMBASE, and EBSCOhost.

This scoping review involve six steps which have been applied based on Arksey and O'Malley's framework, including: **identifying the** PICOT **questions** "among nursing staff what is the associated factos that influence the stress level? To guide the search process in data base, then identify the **relevant studies** which focus on "the stress and associated factor among nurses" searching was initiated in electronic data base between Mars and April 2021. Recent articles were **collected** between 2016-2021 to

identify the updated literature depending on **inclusion and exclusion criteria**. Finally, thematic framework to guide the narrative account of existing literature and to **collating**, **summarizing** and **reporting** the results. What about language? Is any language filter was applied?

Keywords:

Combination of key ward was used which include: 'nurses, stress, stressful, nursing, staff, nursing staff, stress

Search Engines:

The electronic searches were performed in the following electronic databases: Database of Cumulative Index of Nursing and Allied Health Literature "CINHAL", Database of the National Library of Medicine "PubMed", Thomson Reuters, EMBASE, and EBSCO host.

Literature search results

Based on the key words which have been used in search process, results were identified and illustrated in the figure 1.

Table 1: Search terms, database searches and its results

Search term	PuMed	CINAHL	Thomson Reuters	EMBASE	EBSCOhost	Total
Nurses, stress	20	8	12	9	10	59
Stress, nursing, staff	18	7	11	9	9	54
Nurses, stress, nursing, staff	15	6	8	5	6	40

Synthesis of evidence

Several national and international research studies related to stress among nurses have been included in the results of the current review. These studies have been reviewed very well through investigating its objectives, methods, data analysis and results, and conclusion. The search revealed 40 articles. After

checking for duplicates, 30 papers were left for evaluation of titles and abstracts. Of these, 11 papers did not meet the aim. Another three articles were not conducted within general practice settings. The remaining 16 articles were read thoroughly to appraise them according to the quality criteria. Six of them did not meet the quality criteria. Hence, ten studies were included in the present review (Figure 1).

Inclusion and Exclusion Criteria

Following are the Inclusion and Exclusion Criteria that were developed to identify the most related articles to answer the PICOT question

Inclusion Criteria

1. Articles in English language.
2. Full abstract articles
3. Articles related to adult population > 18 years.
4. Articles promulgated during years 2016-2021.
5. Both qualitative and quantitative articles were included.
6. Articles that studies the level of stress and the associated factors among nursing population.

Exclusion Criteria:

1. Articles in languages other than English
2. Articles that are not relevant to the topic such as articles address anxiety level of other health care providers.
3. Articles was before 2015.
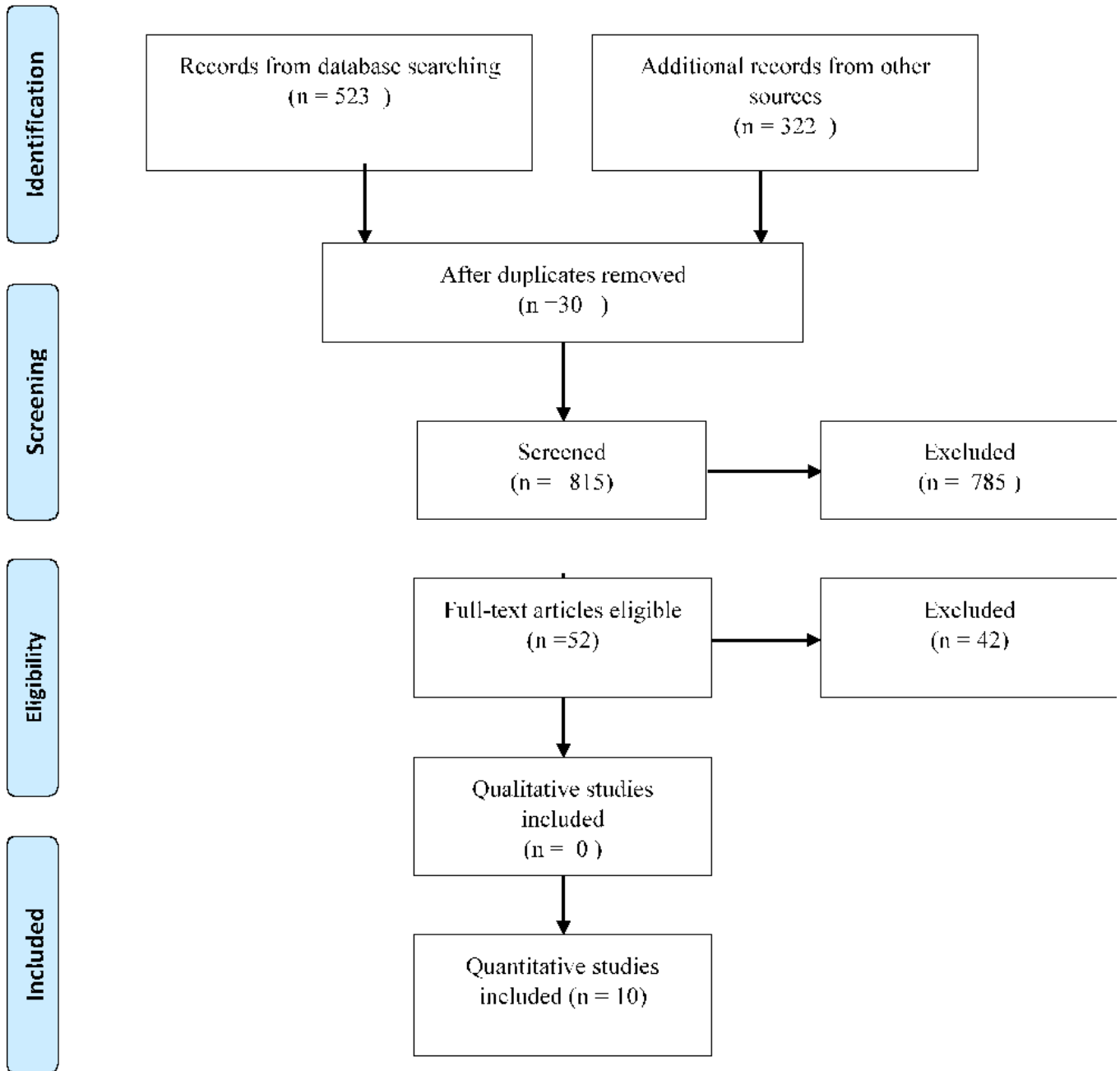
PRISMA Flow Diagram

Figure 1: Flow diagram (PRISMA) of the process of identifying and including references

Quality appraisal assessment

Assessment of quality for selected studies were established based on several standards such as the study design, study sample, data analysis, and validity and reliability. Failure to meet these standards led to exclude these studies to be included in this review as illustrated in table 2 in the appendix.

Finding and Results: - Thematic analysis was used to categorizes retrieved articles into six themes as organized below.

Scope Review Theme and Sub-themes			
Themes/Sub Themes	**Name**	**Author**	
Theme : stress level.			
Sub theme No 1	Factors related to children, working hours per week and anxiety.	Mo et al., (2020),	
Sub theme No 2	Factors related to dealing with death , lack of personnel ,violence in the workplace, and a high frequency of patients	Starc (2018), Chatzigianni et al. (2018). Gates et al. (2011),	

Sub theme No 3	Factors related to demographic factors(age ,nationality and marital status.)	Alenezi et al. (2018),	
Sub theme No 4	Factors related to Inability to take time off or week end	Dobnik et al. (2018),	
Sub theme No 5	Factors related to stressfull working environment " critical earia"	Alharbi & Alshehry (2019)	
Sub theme No 6	Factors related to conflict with physician	Alenezi et al. (2018) Chatzigianni et al. (2018).	

Discussion of themes

This survey aids in having a much a closer look at the elements which are responsible for stress in nurses who are working in different setups. With the help of this, one can figure out the main causes of stress and how to alleviate them with proper support.one thing common among all these studies is the proof that nurses experience stress due to different reasons in different setups.

Theme No.1 :- Factors associated with stress involve children, working hours per week and anxiety.

On the basis of the study of Mo et al., (2020), factors that are linked with stress involve children, working hours per week and anxiety. This could be attributed to the fact that nurses work in night shifts and leave their children at home; which in turn lead to increase their level of stress. Moreover, working hours including evening and night shifts cause stressful working status among nurses ,they are become more confused and more exhausted due to this working time.

Theme No.2 :- Factors associated with stress involve violence in the workplace, dealing with death, lack of personnel and a high frequency of patients

In the study of Starc (2018), different factors causing stress were given. Factors such as physical violence at workplaces, psychological trauma due to deaths of patients, and a smaller number of staff members who can help; these factors given are somewhat different from the already mentioned ones.

Dealing with dead bodies made the nurses feel not well especially when repetition occurs, and this has been proved by the study of Chatzigianni et al. (2018). Moreover, psychological and physical violence in the workplace could place the nurses exposed to different risky behaviors and made them stressed during their work and might affect their level and quality of performance. This fact is consistent with what has been revealed by the study of Gates et al. (2011), which proved that workplace violence is a significant stressor among nurses and it can affect negatively the care and performance o nurses. This result is also supported by the study of Kobayashi et al. (2020), which proved that violence at workplace predicts stress among nurses.

Theme No.3:- Factors associated with stress involve demographic factors(age ,nationality and marital status.)

Apart from these, factors such as age, marital status, and income of a nurse (demographic factors) are taken into account when it comes to finding out about stress. All these factors play a significant role in stress as stated and proven by Alenezi et al. (2018). Nurse's age was considered as a main factor because with an increasing age, it is difficult for them to manage their workload which makes them stressful because different patients have different needs. Due to this, some might need longer hours of care.

Theme No.4:- Factors associated with stress involve Inability to take time off or week end

Inability to take time off after working on weekend is considered a source of stress and mentioned in the study of Dobnik et al. (2018), this could be attributed to the fact that the nurses need free time to spend with family and friends. Since the nurses cannot find this time or they find it difficulty, they feel stressful and psychologically tired.

Theme No.5:- Factors associated with stressfull working environment " critical earia"

. Nurses who are working in an intensive cardiac unit (ICU) of cardiac section comparatively experience less level of stress. This was shown in the study done by Alharbi & Alshehry (2019).. This could be attributed to the stressful working environment of intensive care units within the hospitals such as alarms sound, dealing with death, long standing hours and long monitoring for patients' status

Theme No.6:- Factors associated with conflict with physician

More importantly, conflict with physician was proved by two studies in this review such as the study of Alenezi et al. (2018) and the study of Chatzigianni et al. (2018). This could be attributed to the conflict occurs among them during working with patients, which is considered psychologically demanding.

Implications for research

Future studies should focus on other factors which lead to stress among nurses by identifying the current environment in which the nurses are working and other factors like financial support as well as social statuses of nurses. Moreover, comparative studies like comparing nurses who have stress with others who do not have stress can be done to reveal more factors leading t stress.

Implications for practice

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With regard to the above-mentioned studies and with focusing on the problem, nurse managers should work to minimize the level of stress among nurses by identifying the leading factors and conducting meeting with them to put effective strategies to manage the problem. Policy makers in the ministry of health can enhance and improve the working conditions of the hospitals and other healthcare centers in order to reflect the outcome on the health status of patients within these hospitals.

Conclusion

It is evident that nurses all over the world suffer from work-related stress despite the level is not unified in the studies. There are several factors associated with stress most commonly conflict with physician, dealing with death and other demographic factors. Based on these data, the nurses should fine stress management technique to help them alleviate this problem. Nurse managers also should help the nurses to manage this problem they should not allow this problem to effect the health status of patients.

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Alharbi, H., & Alshehry, A. (2019). Perceived stress and coping strategies among ICU nurses in government tertiary hospitals in Saudi Arabia: a cross-sectional study. *Annals of Saudi medicine*, *39*(1), 48–55.

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Appendix 1 Research quality scoring system

Table 2 Critical appraisal: papers excluded on the basis of quality assessment

Author/year of published	Design: described in detail?	Sample: described in detail?	Data analysis: described in detaail?	Validity, reliability and rigor of instrument examined?
Sharma et al. (2014)	Yes	No	No	No
Faremi et al. (2019)	No	Yes	No	No
Adib-Hajbaghery et al. (2012)	No	No	No	No
Bhatia et al. (2010)	No	No	No	No
Halpin et al. (2017)	No	No	No	No
Labrague et al. (2016)	No	No	Yes	No (reliability only)
Naholi et al. (2015)	No	No	No	No

Table 3 Critical appraisal: papers included on the basis of quality assessment

Author/year published	Design: described in detail?	Sample: described in detail?	Data analysis: described in detail?	Validity, reliability and rigor of instrument examined?
Mo et al., (2020)	Yes	Yes	Yes	Yes
Starc (2018)	Yes	Yes	Yes	Yes
Alenezi et al. (2018)	Yes	Yes	Yes	Yes
Dobnik et al. (2018)	Yes	Yes	Yes	Yes
Almazan et al. (2019)	Yes	Yes	Yes	Yes
Alharbi & Alshehry (2019)	Yes	Yes	Yes	Yes
Karimi et al. (2018)	Yes	Yes	Yes	Yes
Baye et al. (2020)	Yes	Yes	Yes	Yes
Faraji et al. (2019)	Yes	Yes	Yes	Yes
Chatzigianni et al. (2018)	Yes	Yes	Yes	Yes

Appendix 2: Data Extraction Table/ Review Matrix

Author / year	Design	Methods	Aim	Setting and location	Sample & strategy	Methods of analysis	Key findings
Mo et al., (2020)	A cross‑sectional survey	Online questionnaire Chinese version of the Stress Overload Scale (SOS) and the Self‑rating Anxiety Scale (SAS),	To examine the work stress among Chinese attendants who are supporting Wuhan in battling against Coronavirus Disease 2019 (COVID‑19) contamination and to investigate the important impacting factors	Guangxi-China	180 convenient sampling	Multiple logistic regression	Factors associated with stress involve children, working hours per week and anxiety.

Starc (2018)	Non-experimental method	Questionnaire developed by authors	To determine the basic causes of stress and examine the symptoms of stress among healthcare professionals at the primary and secondary level of health care.	Primary and secondary level of health care in Slovenia	370-Snowball sampling	Independent samples t-test	Psychological or physical violence in the workplace, dealing with death, lack of personnel and a high frequency of patients are associated with stress.
Alenezi et al. (2018)	Cross-sectional	Nursing Stress Scale	To compare the sources and factors of stress among nurses from hospitals and primary health care centres.	Five government hospitals and four sectors of primary health care	347-conventional sampling	Independent samples t-test and Levene test	Workload, inadequate preparation, conflicts with physicians and nurses, lack of support, uncertainty concerning treatment, nurses' age, marital status, nationality, and job

				centres in Saudi Arabia			position are the associated factors of stress.
Dobnik et al. (2018)	Cross-sectional	Nursing Stress Scale	To establish the level of stress in nurses working at hospitals in Slovenia and to identify stress-related factors.	Public hospitals in Slovenian	983- systematic sample	Correlational and exploratory linear regression	Prevalence of high level of stress was 56.5%. factors associated with stress include disappointment at work, disturbing factors at work, inability to take time off in lieu after working on weekend, and an increased number of workdays on Sunday.

Almazan et al. (2019)	Descriptive cross-sectional	Perceived stress scale	To assess the perceived work-related-stress of staff nurses and determine the relationship between work-related stress and demographic profile.	Acute care hospitals in Saudi Arabia	164-convenience sampling	Frequency, percentage, ANOVA, t-tests, and Pearson's correlation	Indian nurses had higher stress levels compared with nurses of other nationalities. Working hours per week was another significant predictor of stress.
Alharbi & Alshehry (2019)	Descriptive cross-sectional	Perceived stress scale	To examine perceived stress and coping behaviours among nurses in intensive care units in Saudi Arabia	Intensive care units- at two tertiary training hospitals Saudi Arabia	154-convenience sampling	Multivariate analysis	The majority of the respondents reported a moderate level of stress. Nurses working in the cardiac ICU indicated

							significantly higher levels of stress.
Karimi et al. (2018)	Correlational study	Nurses' Job Stress Questionnaire	To determine the relationship between nursing adverse events and occupational stress among nurses.	Centers affiliated to Isfahan University of Medical ,iran	100-quota sampling	Mean, SD, and Pearson correlation	Factors associated with stress include: administrative factors had the highest impact, environmental factors, and interpersonal factors.

Baye et al. (2020)	Cross-secti onal	Expanded Nursing Stress Scale	To assess work-related stress and associated factors among nurses	Governmenta l hospitals in Harar, Eastern Ethiopia	398- simple random sampling	Bivariate and multivariate logistic regressions	The prevalence of work-related stress was 66.2%. Nurses, who reared child, working in intensive care units, work on rotation, and nurses who had a chronic diseases were significantly associated with nurses' work-related stress.
Faraji et al. (2019)	Cross-secti onal	Osipow Occupational Stress Questionnaire	To investigate the occupational stress of Iranian critical care unit (CCU) nurses and its related demographic factors.	Critical care unit (CCU) nurses-Iran	155- Stratified random sampling	Independent sample t-test, one-way ANOVA and Pearson correlation	The mean of nurses' occupational stress was moderate-to-high level. The highest mean of occupational stress was

							related to role Overload, and physical environment.
Chatzigianni et al. (2018)	Cross-sectional	Expanded Nursing Stress Scale	To measure perceived stress levels among nurses in a Greek public general hospital	Regional public general hospital in northern Greece	157-convenience sampling	ANOVA and MANOVA	The most stressful situations were dealing with death and dying, patients' and families' demands, uncertain treatment.