

## Review Article

# Effects of Stress and Burnout among NHS Adult Nurses in the UK- A Systematic Literature Review

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## Abstract

**Background:** There has been increased stress and burnout among NHS adult nurses due to increased workload and long shifts that cause fatigue. Increased stress and burnout have contributed to a high absenteeism rate due to decreased job satisfaction. The objectives were to examine the causes, and the effects of stress and burnout among adult NHS nurses in the UK, and strategies to minimize stress and burn out among them.

**Method:** A systematic literature review was employed as the review method. It provides more comprehensive results and involves synthesizing the data from various studies. This method also enables in-depth data analysis by reading the studies to identify the major themes. Data were searched from PubMed, Science Direct, Scopus, Medline, and the Cochrane Library. These databases were used because they consist of reliable and valid sources. These databases consist of peer-reviewed studies, which help give accurate results.

**Results:** A total of 500 articles were identified, of which 10 met the inclusion criteria. There was evidence that high workloads and long shifts are the major causes of stress and burnout among NHS nurses. The effects of stress and burnout among the nurses included poor care services and increased absenteeism due to decreased job satisfaction. The identified strategies for minimizing stress and burnout among nurses include reduction in workload, work-life balance, relaxation techniques, workshops for stress management and behavioural techniques.

**Conclusion:** It is crucial to increase and implement effective interventions to reduce stress and burnout among adult NHS nurses and improve the services they provide to patients. This can be achieved by training them to manage their stress and time.

**Keywords:** NHS adult nurses; Fatigue; COVID-19

## Introduction

The National Health Service (NHS) in the UK, have tried to implement mitigation measures to reduce the factors leading to stress and burnout among adult nurses [1]. Miles (2023) states that reducing stress and burn out among professional nurses can improve health care outcome. This is because stress and burnout make the nurses provide inadequate patient services. Stress makes individuals to have a low concentration on the services they provide to their patients [2]. For instance, medication administration errors occur if the nurse is stressed and is not paying attention to the services they provide to the patient [3]. Although, a lack of effective education and training can also result in medication error, higher psychological burnout and stress among nurses is the common cause of medication error [4]. This study is significant because it will help create awareness in healthcare institutions about how stress and burnout negatively impact healthcare professionals' services. Hence, this study will help us to understand better how stress and burnout affect the mental health and well-being of nurses.

This study focuses on the NHS adult nurses in the UK because there has been an increase in stress and burnout among adult nurses as a result of the COVID-19 pandemic, which has led to a decline in job satisfaction [5]. According to Kent, Hochard, and Hulbert-Williams [6], stress and burnout have been prevalent among adult NHS nurses because of inadequate care providers for adult patients, making a nurse overwhelmed with the tasks. For example, a study reported that nurses who have longer weekly overtime due to staff shortages are more likely to experience stress and burnout [7]. The study focuses on adult NHS nurses because they are the ones who frequently interact with adult patients with different healthcare conditions.

## Background Information

Nurses and midwives form a significant proportion of healthcare professionals working within the healthcare system. Research shows that nurses worldwide experience high burn out within the healthcare setting [8]. The decline in interest in working lowers job satisfaction and it causes the nurses to communicate poorly with the patients (Waters, 2022). Jane (2019) found that causes of burnout and stress among adult nurses in the UK include high workloads, long shifts, and conflict with other service providers, and poor facilities at the workplace. These factors prevent nurses from providing their services appropriately to the patients, leading to poor services [9]. High workload makes the nurses to strain to meet the needs of all patients, which can lead to poor services because delays in attending to patients in critical condition can increase the mortality rate [10]. Long shifts exhaust service providers, which can affect the services they provide to the patients [11] state that burnout and stress among nurses are linked to conflict among adult NHS nurses. This is because conflict leads to poor coordination among the nurses, leading to stress.

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Furthermore, about 50% of nurses experience pressure to offer optimal patient care as reported by Kane [12,13] state that care quality commissions require the NHS adult nurses to provide high-quality services to patients. However, the nurses may have a high workload, making them fail to provide high-quality patient services, causing burnout. This affects the mental health condition of the nurses because it causes depression [14] found that a high burnout composite score predicted a negative patient outcome. This study indicates that NHS nurses' high level of burnout and stress leads to poor quality services to the patient [15] discussed that stress and burnout can increase the rate of absenteeism among nurses in the UK. Stress and burnout make the nurses unable to perform their duties because it increases mental health disorders such as depression [16,17] discuss strategies to help reduce stress among adult nurses in the UK. It was found that nurses can share their feelings with other professionals concerning the factors leading to burnout and stress to find the appropriate solutions [18]. It was also found that they can practice meditation and physical exercise to lower depression [19] state that stress and burnout among adult nurses have adverse impacts, such as making them quit their jobs. Since COVID-19, the rate of quitting the job among NHS nurses has risen [20]. Also, burnout and stress lead to a decline in the quality of the services nurses offer, damaging their reputation [21]. For instance, if the nurse administers the wrong medication to the patient because of stress, it can adversely affect their health and career (Gillen et al., 2022). Therefore, it is crucial to prevent stress and burnout among adult nurses in the UK to reduce the negative outcomes for both the patient and the nurses [22]. This review will contribute to an in-depth exploration of the outcome of the care provided by NHS adult nurses experiencing stress and burnout to enhance further education to the care providers to improve the condition [23] state that nurses must prevent burnout syndrome to improve their healthcare services [24] identified that burnout syndrome can be prevented through Systematic nursing supervision. Systematic nursing supervision helps to identify the challenges experienced by the nurses that can contribute to stress and burnout.

### Review questions

What causes stress and burnout among NHS adult nurses in the UK?

How does stress and burnout affect the services provided by adult NHS nurses in the UK?

Among adult NHS nurses, what is considered an effective way to reduce burnout and stress compared to no intervention?

### Objectives

The objectives of the study include the following:

To examine causes of stress and burnout among adult NHS nurses in the UK.

To examine the effects of stress and burnout on the services offered by adult NHS nurses in the UK.

To review the effective strategies to minimize stress and burnout among NHS adult nurses.

### Methodology and protocol

Systematic literature review was used as the study method because it allows qualitative data analysis from various literature sources, enhancing the accurate results [25]. A qualitative research method

was employed in the study, which involved the evaluation of the text from the selected studies [26]. Additionally, the qualitative research method allows data analysis that cannot be analysed using numerical values [27]. A systematic review in this study helps to recognize and understand a reliable review of how stress and burnout affect the mental health and well-being of nurses.

## Search Strategy

### Database searches

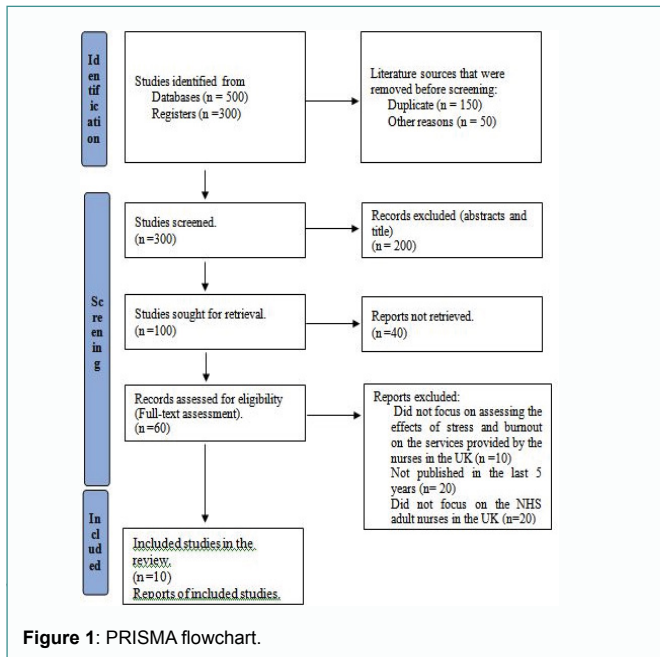
The databases used to search for the literature sources included PubMed, Science Direct, Scopus, Medline, and Cochrane Library. These databases were selected because they contained peer-reviewed sources [28]. The study by Altman, Huang, and Brel [29] shows that Peer-reviewed sources help to give reliable data leading to accurate results. These databases also consist of a wide range of sources that facilitate easy information searching. Furthermore, the literature sources were selected from various databases to enhance the diverse data and reduce the study's bias [30]. Relying only on one data source can contribute to the biased data because the data collected will consist of one group of authors.

### Search terms

The search terms that were used to search the relevant literature sources in the study included "stress AND burnout AND NHS AND adult nurses AND UK", "Effects AND stress AND burnout AND adult nurse and UK", "burnout AND national healthcare services AND UK AND occupational stress and burnout AND nursing and the United Kingdom". These search terms were used because they help to identify the specific literature sources from the database, enhancing the data sources' accuracy [31]. Search terms also minimize the time to select the literature source compared to searching manually [32] explain that search terms are significant because they help to find the articles quickly and accurately. However, the search was specified only on the adult NHS nurses in the UK.

### Outcome of the search process

This study was designed per the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) (Figure 1). Using the search terms, 500 literature sources were retrieved. However, to select the specific literature sources, sources were excluded using the inclusion and exclusion criteria. 150 literature sources were excluded from the study before screening because of the duplication. Duplication occurred because the related search terms were used, leading to the retrieval of similar sources. Also, the other 50 sources were excluded from the review for other reasons. Two hundred sources were excluded after screening the abstract and the title. The title of these studies did not match the specific topic. The abstract was also invalid because most studies covered nurses outside the UK. The remaining 100 sources were sought for retrieval from the databases to identify their reliability. It was revealed that only 60 sources were retrieved from the database, and then 40 failed to be retrieved. Therefore, the 60 retrieved sources were screened for eligibility for the study. This included a full-text assessment to identify if the sources were eligible for the review. During the screening, it was noted that only 50 sources were not eligible for the 10 studies that did not focus on assessing the effects of stress and burnout on the services provided by the nurses in the UK. Also, it was identified that 20 sources were not published within five years. Furthermore, 20 sources did not focus on the UK's NHS adult nurses. Hence, only ten literature sources were included in the study because they were eligible for the study.



to reduce the rate of stress and burnout among NHS nurses in the UK [33]. This strategy helps to select only the relevant sources and then exclude the irrelevant ones. According to Li, Scells, and Zuccon, [34], an effective search strategy prevents bias in selecting the review studies by ensuring that only the relevant sources are included. Bias in the selection of the studies leads to inaccurate results leading to inappropriate decisions in healthcare settings.

## Study Selection

### Inclusion and exclusion criteria

The inclusion and exclusion criteria were based on the Population Intervention Comparison and Outcome (PICO) tool to include the relevant studies [35]. This tool is commonly used to identify components of clinical evidence for systematic reviews [36]. The Table 1 below shows the factors considered to include the studies for the review. The studies that met the inclusion criteria were included in the study, and those that did not meet the inclusion criteria were excluded from the study. Connelly [37] states that inclusion and exclusion criteria are not the opposite, but they are used to guide the selection of the appropriate sources.

### Outcome of the selection process

Ten sources were identified as valid for the study in the selection process because they comprised the inclusion criteria. The inclusion and exclusion criteria helped narrow the main studies, leading to the precise data.

### Justification for inclusion and exclusion criteria

Inclusion and exclusion criteria were used in the study to include

**Table 1:** Worldwide prevalence of diabetes by 2045.

	Inclusion criteria	Exclusion criteria
<b>Population</b>	Studies about NHS adult nurses	Studies about Non-adult NHS nurses.
<b>Intervention</b>	Studies regarding Strategies to reduce stress and burnout among NHS adult nurses.	Studies not related to the Strategies for the reduction of stress and burnout among the nurses.
<b>Comparison</b>	Not applicable.	Not applicable.
<b>Outcome</b>	Studies with results of Reducing stress and burnout	Studies with another outcome apart from reducing stress and burnout.
<b>Year of publication</b>	Studies published within 5 years	Studies published more than 5 years.
<b>Location</b>	Studies published in the UK	Studies published Outside UK
<b>Language</b>	Studies published in English	Studies published in other languages.

only the relevant sources [38]. For instance, the studies that were relevant to the topic were included to ensure they were in line with the study topic. Also, the article written in English was included in the study to avoid the issues associated with the translation [39]. Additionally, the articles published only in the UK were included in the study to ensure that they are about adult NHS nurses. Finally, the article only published within five years was included in the review to ensure obtaining the most recent evidence.

### Critical appraisal

The criteria that were used to check the quality of the study was the Critical Appraisal Skills Program (CASP). This tool was used because it allows the assessment of the study with a checklist of 10 questions [40] (Appendix 1). CASP allows the assessment of the validity and reliability of the study because it assesses the relevance of the aims and objectives, the research question, the methodology used, the data collection methods used, and the ethical consideration and recommendation of the study [41]. Therefore, this tool helped select the relevant studies that aligned with the study's objectives. The process used to appraise the study included examining the topic's relevance to the study. It was followed by assessing if the author stated the research aim and used the appropriate methods to collect and analyse the data Critical Appraisal Skills Programme (CASP) [42]. Then, it was assessed if the author had a good relationship with the participants and considered the ethical principles in the study. Finally, the checklist questions (Appendix 1) helped assess if the study's findings and conclusion answered the research question Critical Appraisal Skills Programme (CASP).

## Ethical Appraisals

### Processes used to establish ethical aspects of review

According to [43] ethical considerations are the principles guiding research designs and practices. The ethical consideration makes the research to understand the practices that are wrong or right [44]. Therefore, ethical considerations are crucial because they enhance the welfare of the participants. In the review, the process used to establish the review included completing the form, and then a copy of consent was attached as evidence for reference [45]. The consent copy attached was intended to enable the review to assess if the study considered ethics [46].

### Principles used to judge ethical quality

Aydogdu [47] shows four principles of ethics used to enhance the welfare of the participants, including the ethical principles of Beneficence, Non-maleficence, Autonomy, and Justice. In the review, these three ethical principles were used to ensure that the study does not have an adverse impact on the study population.

### Principle of beneficence

The principle of beneficence states that the review should promote good practices among the participants [48]. The review

considered this principle by ensuring that the study selected for the review promotes the well-being of the NHS adult nurses rather than causing harm [49]. For instance, the studies that improve the mental condition of the nurses were considered in the study, and those that contain information that could increase stress and burnout among adult nurses in the UK were omitted in the review. This principle was crucial because it ensured that the studies selected could enhance a positive outcome for professional nurses [50]. However, considering this ethical principle in the review led to difficulties in selecting the studies because some of the studies that contained important information and failed to consider this principle were not included in the review [51].

### Principle of non-maleficence

John and Wu [52] reveal that the ethical principle of non-maleficence states that review should not cause harm to the participants. This principle was used in the review to ensure that the review is conducted in the appropriate way that does not cause any harm to the nurses in healthcare settings for instance, in the review, the information that could lead to an increase in mental health issues among the nurses was excluded from the study [53].

### Principle of justice

The principle of justice was considered in the study because fairness was enhanced in the review. For instance, the review considered that the studies that contain the information are fair to the nurses [54]. The studies that contained unrealistic information about the factors leading to stress and burnout among nurses were omitted from the study.

### Justification

The three principles of ethics were used to promote the well-being of the target population in the study. Considering the principles of ethics ensures that the research does not engage in practices that can harm the study population [55] state that ethical principles in research ensure that research engages in fair practices that do not harm other individuals. Failure to consider ethical principles in the study could increase the negative outcomes for the NHS adult nurses [56]. Data abstraction was based on the PICO question in which the studies that met the criteria in the PICO questions were included in the review [57]. Some of the variables considered in the abstraction of the data included the UK population, intervention, comparison, and the outcome of the studies [58]. Imputing the missing data was the strategy that was used to replace the missing data in the review [59]. For instance, the studies that missed crucial information were substituted with other relevant studies to enhance the accuracy of the results.

### Data extraction

The process used in the extraction of the data in the review was the use of the piloted forms in which all items that were essential for data were included to minimize the collection of irrelevant data [60]. Piloted form helped to save time during the abstraction of the data because studies that consisted of specific information were included in the study, and those that did not meet the criteria were excluded from the study [61].

## Analysis

### Narrative analysis

Narrative analysis was used as the method of the review because it combines the results of the various studies to increase the accuracy of

the generalizability concerning the effects of stress and burnout among nurses in the UK [62]. Narrative analysis allowed the generation of important qualitative information from various studies to identify the important themes in the study [63].

The steps followed in narrative analysis methods included extracting the relevant data from the selected studies about the effects of stress and burnout among adult nurses in the UK [64]. The next step involved identifying the common patterns from the studies through the coding processing. Both similar and different concepts in the study were identified from these different studies. According to Josselson and Hammack [65], narrative analysis identifies a wide range of concepts from various studies, leading to a better understanding of significant concepts. For example, various concepts concerning the effective measures to reduce stress and burnout among the nurses were assessed. Also, the way stress and burnout affect the services provided by the It was followed by identifying the common themes from the patterns identified in the study [66]. This method is effective because it allows the synthesis of the studies to identify the themes concerning stress and burnout among nurses [67].

## Results and Discussion

### Results

**Characteristics of studies included in systematic review:** One of the characteristics of the studies included in the review is that different study designs and methods were used in the studies [68]. For instance, in some studies, the qualitative research design was used; quantitative research or mixed methods were employed. Different researchers have different objectives to carry out the studies, leading to variations in the methods employed [69]. Conducting a systematic review of the studies that vary in the study methods leads to accurate results. Secondly, the study's participants are adult NHS nurses from the UK [70]. Hence, these studies aligned with the study topic because they discuss how stress affects the services provided by NHS adult nurses. Thirdly, intervention measures in these studies focus on reducing stress among adult nurses in the UK to improve the services they provide to patients. These studies focus on reducing stress and burnout among nurses because it affects their mental health, leading to adverse healthcare outcomes [71]. The fourth characteristic is that the studies had a positive outcome on the mental health of the adult NHS nurses [72]. The studies focused on assessing how intervention measures impact the mental outcomes of the NHS Nurses. Finally, the systematic review studies were written in English to avoid translation barriers [73]. These studies have related characteristics because they were selected using the inclusion and exclusion criteria.

### Discussion

Three themes were identified from the systematic review, including the Causes of stress and Burnout among NHS adult nurses, the Effects of stress and burnout on the services provided by NHS adult nurses, and measures to reduce stress and burnout among the adult NHS nurses in the UK [74,75]. Table 3 shows a summary of the theme. These themes were based on the findings, conclusions, and recommendations identified from the ten selected studies.

### Causes of stress and burnout among NHS adult nurses

It was revealed from the studies that the main causes of stress and burnout among adult NHS nurses include the increase in the workload, long-term shifts, and the increase in the number of deaths during the pandemic. It was identified that an increased workload makes the nurses feel fatigued because they lack the time to reset

**Table 2:** Data extraction of relevant studies.

Article	Title	Main findings
Davey et al. [70]	It's What We Do: Experiences of UK Nurses Working during the COVID-19 Pandemic: Impact on Practice, Identity and Resilience.	It was found that during COVID-19, loss and disruptions, rapid changes, and the context in flux were the factors that increased stress and burnout among the NHS adult nurses in the UK. It was found that measures to reduce stress and burnout among nurses include implementing coping mechanisms among those nurses and reinforcing and strengthening their identity.
Health and Social Care Committee, [97]	Workforce Burnout and Resilience in the NHS and Social Care.	It was found that there has been an increase in burnout among the NHS adult nurses, leading to negative mental health outcomes. It is revealed that excessive workload is the main cause of burnout among nurses in the UK. It is recommended that health and social care increase the survey of the NHS nurses to implement appropriate strategies to reduce stress and burnout.
Ravalier, McVicar, and Boichat, [74]	Work Stress in NHS Employees.	It found that poor relationships among the NHS nurses and inappropriate communication contribute to stress and burnout among the nurses. The study revealed that improving the well-being of the nurses will eventually contribute to reducing stress and burnout among the nurses.
CQC [75]	Workforce stress and burnout.	The study reveals that during a pandemic, there has been increased stress and burnout among NHS adult nurses because of the difficulty in accessing the necessary resources and support, witnessing serious illness and death of colleagues.
While, and Clark [7]	Management of work stress and burnout among community nurses arising from the COVID-19 pandemic.	The study shows that the pandemic has caused an increase in the level of stress and burnout among nurses. During the pandemic, there was an increase in the workload among the nurses, making them strain to provide quality services to the patients.
Brook [71]	An intervention to decrease burnout and increase retention of early career nurses: a mixed methods study of acceptability and feasibility.	The study assessed the appropriate intervention to reduce stress and burnout among adult NHS nurses. It was revealed that promoting acceptability and feasibility among NHS nurses can help reduce stress and burnout.
Glasper [83]	Strategies to promote the emotional health of nurses and other NHS staff.	It was noted that NHS adult nurses should receive emotional support because they experience and absorb the patient's emotions, making them scared. Therefore, the study revealed that guiding and counselling adult nurses can reduce fear and sadness, reducing stress levels.
Gemine [81]	Factors associated with work-related burnout in NHS staff during COVID-19.	The study assessed some of the factors associated with burnout among NHS nurses. It was found that the pandemic has been the major factor leading to increased burnout and stress among nurses in the UK.
Miles [72]	A review of the potential impact of A review of the potential impact of professional nurse advocates in reducing stress and burnout in district nursing.	The study shows that burnout and stress among adult NHS nurses are the leading factors contributing to increased absenteeism, errors, and complaints. Hence, it was revealed that reducing the stress and burnout among nurses will help improve service quality.
McKinless [2]	Impact of stress on nurses working in the district nursing service.	The study assessed the impact of stress and burnout on adult nurses in the UK. It was identified that stress and burnout among the nurses reduce job satisfaction and retention among the adult nurses of the NHS. It was identified that health behaviours and appropriate staff management can reduce stress and burnout among nurses.

[77]. Continued exhaustion due to a high workload causes nurses to have burnout [78]. Furthermore, being overwhelmed with the tasks stresses the nurse [79]. Also, the increased workload makes the nurses have long shifts because they can work during the day and night [80]. Long working shifts hinder nurses from interacting with their families and friends, leading to stress. Finally, increased deaths during COVID-19 increased working stress among adult nurses in the UK because they feared being infected by the virus [81]. NHS adult nurses witnessing patients dying due to infection with the virus made them work under stress, adversely impacting work, and their services [82]. For instance, the nurses could fear attending to the patients infected with the COVID-19 pandemic.

### Effects of stress and burnout on the services provided by NHS adult nurses

The major effects of stress and burnout identified in the studies included a decline in the quality of the care services provided by the nurses and an increase in absenteeism [83]. It was revealed that stress and burnout make the NHS adult nurses lack motivation to provide quality patient services, leading to adverse impacts such as poor communication and medication administration errors [84]. Poor communication between the nurses and the patients leads to mental health problems among the patients, which worsens their health conditions [85]. Medication administration errors can cause an adverse health impact, such as patient death [86]. Also, burnout among the nurses leads to fatigue, making the NHS nurses seek absenteeism leave [87]. Burnout leads to a lack of job satisfaction among nurses, making them lose interest in attending to the job [88]. The results

showed that a high absenteeism rate reduces the number of service providers, causing the patient to have inadequate care services [89].

### Measures to reduce stress and burnout among the adult NHS nurses in the UK

From the studies, it was identified that stress and burnout among NHS nurses could be reduced by implementing a support program to enhance coping with stress and burnout. For instance, a mentorship program should be formed to guide the nurses in overcoming the factors contributing to stress. Furthermore, guiding and counselling the nurses will help them understand themselves better, motivating them toward their duties [90,91] state that healthcare institutions can use the transformational leadership model to understand healthcare providers' interest in making the appropriate changes. For instance, through the model of transformational leadership, the leaders of the NHS adult nurses can be able to understand the challenges facing the nurses, which might be contributing to stress and burnout [92]. Secondly, it was also identified that stress and burnout among NHS nurses can be reduced by involving the nurses in policymaking [93]. The systematic review studies show that involving adult nurses in policymaking can help to make policies that promote their welfare, such as allocating appropriate duties that do not contribute to stress and burnout [94,95] states that in most of the implemented healthcare policies, the nurses are not involved, leading to unfavorable working conditions that demotivate the nurses.

Thirdly, it was identified from the studies that the nurse-patient ratio should be improved to reduce burnout. A high nurse-patient ratio leads to burnout and stress [96]. Allocating nurses, to a specific

**Table 3:** Show Code theme description and theme for the various studies.

Code	Theme description	Theme
There was an increase in stress and burnout among Adult NHS nurses during the pandemic. The pandemic led to an increase in the number of deaths and workloads.	COVID-19 increased the nurses' workload, leading to a rise in stress and burnout. An increase in the number of deaths among adult patients led to anxiety and stress.	Causes of stress and Burnout among NHS adult nurses.
There was increased absenteeism among the adult nurses in the NHS during the pandemic. Stress and burnout lead to poor services offered by the NHS nurses in the UK.	Stress and burnout led to increased absenteeism due to a lack of motivation to work. Increased absenteeism left many adult patients unattended by the care providers, leading to poor-quality services.	Effects of stress and burnout to the services provided by NHS adult nurses.
Stress and burnout among nurses can be reduced by implementing the support program. Burnout can also be reduced by involving nurses in policy discussions. The nurse-to-patient ratio should be improved. The leaders should address burnout and stress among the nurses.	Implementing a supporting program will aid adult nurses in understanding how to manage the issue of stress and burnout. Involve the nurses in decision-making will help them address issues affecting them, leading to improved management of the healthcare institutions. Improved nurse-patient ratios will help the nurses offer services to appropriate patients. Leaders should address burnout and stress among the nurses to help them consider it normal.	Measures to reduce stress and burnout among the adult NHS nurses in the UK.

number of patients they can serve comfortably promotes a healthy working environment, which reduces stress and burnout. Finally, it was identified from the studies that healthcare leaders should address the issue of stress and burnout among nurses to increase their knowledge [97]. Some nurses lack awareness about the challenges associated with nursing duties, making them have stress and burnout. This makes the nurses unable to handle stress and burnout when it occurs among them.

### Limitations of the Review

Despite the system review having strengths, it also has limitations, including the studies being limited to those published within five years, the review included the studies written only in the English language, and the heterogeneity of the study design [98,99] state that a systematic review can exclude important studies because they may be limited by the year of publication. In this review, some of the studies that contained significant information about the effects of stress and burnout among nurses were excluded from the study because they were not published within five years. Therefore, limiting the selection of the studies based on the year they were published may contribute to inaccurate results [100,101] demonstrate that reviews can bias because they may limit the inclusion of some studies published in other languages. For instance, this review included the studies only published in English, excluding other studies written in another language that can contain significant information. Finally, this review also included studies with different research designs and methodologies. Various study designs and methodologies made it difficult to synthesize the data because every data was generated using different methods [102].

### Conclusion

In the review, stress and burnout among the NHS adult nurses harm healthcare services because they contribute to poor care services offered to the patient and increase absenteeism due to a decline in job satisfaction. High workload and long shifts are the main factors contributing to stress and burnout. Most NHS adult nurses lack the skills to manage their stress and burnout. COVID-19 is the main factor contributing to the rise in stress and burnout among nurses because nurses were scared to be infected by the virus. Also, the pandemic increased the number of patients in the hospital, increasing the workload. Therefore, it is necessary to reduce stress and burnout among nurses to improve the quality of services they provide. Some measures to reduce stress and burnout include addressing the stress and burnout issues to help the NHS nurses learn how to manage the condition. The other measure is to include the nurses when implementing the healthcare policies and improve the nurse-patient

ratio to reduce the workload allocated to nurses. Finally, the program should also be formed to support the NHS nurses physically and emotionally to improve their mental condition. Stress and burnout are significant conditions because they determine the quality of the service offered to the patients by the nurses. The nurses with stress tend to have poor communication skills with the patients. Therefore, reducing the stress and burnout among the NHS adult nurses in the UK will help to create a positive working environment because it will improve the mental health condition of the nurses, leading to improved communication among care providers and patients, reduced rate of absenteeism due to improved job satisfaction and improved in the services provided by nurses to the patients.

### Recommendations for Practice

Providing stress management training to the NHS adult nurses can help reduce the level of stress and burnout [103]. For instance, teaching nurses stress reduction techniques such as relaxation exercises and time management skills can reduce stress. Relaxation techniques will help the nurses manage the pressure associated with an increased workload [104]. Time management skills can help the nurse complete their tasks earlier, preventing burnout among the nurses [105]. Secondly promoting a positive working environment can help reduce the stress among the nurses. For instance, appreciating and celebrating the nurses' achievements can make them feel valued and develop a positive attitude towards the services they offer the patients [106]. Finally, implementing self-care practices among nurses can help reduce stress and burnout. Encouraging nurses to engage in self-care practices such as having adequate sleep, proper nutrition, and physical exercise can help them replenish their energy and cope with their job demands [107].

### Recommendations for Research

Future studies should assess the effectiveness of the different interventions in reducing stress and burnout among adult NHS nurses. Identifying the effective intervention will be applied across various healthcare institutions in the UK.

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## Appendix Table

**Appendix 1.0:** Outcome of the appraisal process: The table below shows the results of the validity of the studies using the 10 checklist questions.

Article	Was there a clear statement of the aims of the research?	Is a qualitative methodology Appropriate?	Was the research design appropriate to address the aims of the Research?	Was the recruitment. Strategy appropriate to the aims of the Research?	Was the data collected in a way that addressed the Research issue?	Has the relationship between the researcher and participants been Adequately considered?	Have ethical issues been Taken into consideration?	Was the data analysis Sufficiently rigorous?	Is there a clear statement Of findings?	How valuable is the Research?
Davey et al. (2022) [70]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Health and Social Care Committee, (2021) [97]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ravalier, McVicar, and Boichat, (2020) [74]	✓	✓	✓	✓		✓	✓	✓	✓	✓
CQC 2022	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
While, and Clark, (2021)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Brook, et al., (2021) [93]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Glasper, (2020) [83]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Gemine, et al., (2021). [81]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Miles, (2023) [72]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
McKinless, (2020) [76]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓