

# Perceptions and experiences of health care workers and superiors about workplace stress: A conceptual model for promoting mental health in the workplace.

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## Abstract

Occupational stress among health care workers (HCWs) is increasing due to the development of health services and occupational sensitivity. The aim of this study was to identify a mental health promotion model to reduce occupational stress among HCWs. This was a qualitative study, and its findings were the result of semi-structured interviews and focus groups with HCWs working in primary health care centers and superiors. Data analysis was done using the approach of inductive and deductive thematic analysis. For this study, the Precede-Proceed model and the Job Demands-Resource (JD-R) model were used. It was found that the origin of workplace stress is environmental and individual in nature. Furthermore, predisposing, reinforcing and empowering factors are necessary to control occupational stress with individual, social and organizational approaches. Finally, to create change and stress interventions in the workplace, it is necessary to formulate policies to deal with occupational stress and develop stress coping techniques. This study introduces a comprehensive conceptual model for promoting mental health in the workplace with individual, social, organizational and educational approaches in stressful occupations. Therefore, it enables researchers and employers to further understand the different dimensions of occupational stress in HCWs, interventions do the purposeful.

**KEYWORDS:** occupational stress, health care worker, mental health promotion model at work, qualitative study, Precede-Proceed model, Job Demands-Resource (JD-R) model

## Practitioner notes

### What is currently known?

1. Evidence shows the impact of job demands, roles and interpersonal relationships in increasing workplace stress.
2. Organizational and social support are effective in reducing local stress.
3. Employees use some stress management strategies when faced with stressful factors.
4. While the impact of organizational factors on workplace stress has been well researched, qualitative research on the identification of individual stressors and what is needed to implement stress control interventions in the workplace is scarce.

### What the paper adds?

1. A conceptual model of planning for workplace stress management interventions was identified. This model includes three main phases and pursues three goals: identifying the factors that cause workplace stress, factors

affecting stress control, and finally determining the factors needed to make changes and interventions to deal with workplace stress.

2. The source of stress can be the personal and behavioral characteristics of employees, and it can also arise due to job characteristics, policies, laws, and management strategies of the organization.
3. The findings of this study add to the understanding of how individual factors affect workplace stress.
4. Some important factors can predispose, empower and strengthen a healthy behavior to reduce individual stressors or effective behavior to change environmental stressors.

### **The implications for practitioners**

1. To support the mental health of employees, especially in stressful jobs, organizations should consider combined interventions involving employees and the organization.
2. Individual interventions can include training about workplace stress, increasing self-awareness and stress management skills for employees. At the organizational level, changes can be made in the organization's policies regarding employee management, employee participation, and job redesign.
3. In organizations that have a high regulatory nature for their employees, it is necessary to pay special attention to improving the supervisory and management skills of superiors and managers.

## **1 INTRODUCTION**

Work-related stress is defined as the response of individuals when work demands and pressures do not match their knowledge and ability and their ability to cope is challenged (World Health Organization, 2020). Work-related stress is a global concern in all professions and all countries (International Labour Organization, 2016). Studies show that workplace stress is a serious risk in health care settings (Maharaj, Lees, & Lal, 2019; Mark & Smith, 2018; Nowrouzi, Nguyen, Casole, & Nowrouzi-Kia, 2017). The health care system is a sensitive public service provider. The results of several studies showed that HCWs experienced high levels of stress during the coronavirus pandemic (Benfante, Di Tella, Romeo, & Castelli, 2020; Kisely et al., 2020; Salari et al., 2020; Zhang et al., 2020).

Prolonged response to chronic stressors in the workplace leads to overwhelming exhaustion, a sense of ineffectiveness, lack of accomplishment, feelings of cynicism and detachment from the job, and eventually burnout (Maslach & Leiter, 2016).

Despite the extensive research in this field, most of the studies investigated the factors of workplace stress independently, and few studies investigated the different dimensions (Gheshlagh et al., 2017; Wiederhold, Cipresso, Pizzioli, Wiederhold, & Riva, 2018). While workplace stress is an important multi-level, integrated approach (Wiederhold et al., 2018). Evidence shows that health interventions in the workplace are effective in improving the health of HCWs (Brand et al., 2017). Therefore, a comprehensive and scientific framework is needed for effective interventions to control stress in the workplace. The findings of a systematic review revealed that scarcely any studies have investigated occupational stress with a theoretical approach (Nowrouzi et al., 2017). So far, several models have been identified in the field of workplace mental health (Bakker & Demerouti, 2007; J. V Johnson & Hall, 1988; Karasek Jr, 1979; Siegrist, 1996). However, most of these models were limited to identifying factors related to workplace stress and did not have a clear pattern for designing interventions.

While for stressful workplaces such as health care systems, a special model or framework of occupational stress is needed for interventions. The PRECEDE-PROCEED model is a planning model for health promotion in the workplace and appropriate health care environments (Green, L.W.; Kreuter, 2005). The PRECEDE-PROCEED model has an educational and ecological approach, so it is a guide and facilitator for identifying different dimensions of stress and implementing interventions at different levels. The Job Demands-Resource (JD-R) model is an excellent theoretical basis for assessing the mental health and well-being of workers and can be used in various workplaces (Lesener, Gussy, & Wolter, 2019). Therefore, this study was conducted

with the aim of developing a conceptual model for promoting mental health in the workplace in order to reduce occupational stress among HCWs, based on the perceptions of employees and superiors, and in line with the PRECEDE-PROCEED model and the JD-R model.

## 2 THEORETICAL FRAMEWORK

The theoretical framework of the study is based on the PRECEDE-PROCEED model and the JD-R model. This framework was used to compile the research guide, analyze the data and interpret the findings. We describe our theoretical framework in detail in Supplement 1. Our study focuses on phases 2, 3 and 4 of the PRECEDE-PROCEED model.

## 3 METHOD

### 3.1 STUDY DESIGN

This qualitative study was based on inductive-deductive approach using semi-structured and focus group interviews. Researchers recommend using an inductive approach when there is no prior knowledge of the phenomenon (Elo & Kyngäs, 2008). And when the previous knowledge and theory about the target phenomenon is available and operational, the didactic approach is used (Elo & Kyngäs, 2008; Hsieh & Shannon, 2005).

The following research questions are addressed by this study:

1. What causes occupational stress in HCWs? (RQ1)
2. How to control the stress of HCWs? (RQ2)
3. What things are necessary to create change and intervention? (RQ3)

### 3.2 PARTICIPATION SELECTION

According to the structure of Iran's health system, in primary health care centers, there are a number of HCWs and one health care worker as an employer of other HCWs (foreman). HCWs are responsible for providing health care for the population of the areas covered by each center. Participants in this study were HCWs in primary health care centers, supervisors and managers in Qazvin and Alborz County [Institutional Review Board approval XXX; masked for review].

The participants were recruited from the list of employees in the central department of health management in two counties that were covered by one province. In general, the sampling of this study was mixed sampling. Purposive and snowball sampling were used for HCWs. Purposive sampling of HCWs was based on work experience and geographical location of the workplace. Inclusion criteria for this study were having at least six months of experience in primary health care centers as a HCW. Supervisors were selected by purposive sampling method and managers were selected by convenience sampling method. Inclusion criteria were having at least 2 years of managerial work experience in the health department. The interviewer explained the study, the reasons and purpose of the study over the phone to the employees and invited them to participate in the research. Thirty-two participants were recruited in this study: 21 HCWs, 9 supervisors and 2 managers. Participants were concerned about the dissemination of information due to the nature of the issue and organizational conditions. They were all assured that the data would be stored securely and anonymously, and analyzed for publication. All participants provided informed written consent.

### 3.3 SETTING

All semi-structured interviews were conducted at the participants' workplace. Only the participant and the interviewer were present in the interview room. Focus group interviews took place in the meeting room of the organization. Semi-structured interviews and focus groups were conducted between November 2019 and August 2020. The average age of participating HCWs was 33.67, and they all had a university education. The average work experience of participating HCWs was 7.2. See the demographic characteristics and work experience of the participants in supplement 3.

### 3.4 DATA COLLECTION

The data are the product of 11 semi-structured interviews and 4 focus groups. Based on PRECEDE-PROCEED model and occupational stress literature, a semi-structured interview guide was designed (See Supplement 2). The average duration of interviews and focus groups was 60 minutes. Interviews and focus groups were recorded, and audio content was transcribed on the same day. Data collection continued until theoretical saturation was reached. In other words, when no new information was found (Nascimento et al., 2018). One interview was repeated due to the need to clarify and explain an issue.

All interviews and focus groups were conducted by the first author (female/PhD of Science in Health Education and Health Promotion). To ensure the clarity and simplicity of the interview guide questions and to evaluate the interviewer's ability, two interviews and a focus group were conducted experimentally. However, the data were not included in the results of the study. In order to establish credibility of the interview, the initial semantic units were presented to the participants for approval.

### 3.5 DATA ANALYSIS

The collected data were analyzed using a combined inductive and deductive thematic analysis technique (Elo & Kyngäs, 2008). Each transcript was read multiple times by the first author. In the first step, based on the objectives of the study and, deductive approach, the units of analysis were selected and, according to the general concepts, the meaning units were selected. The structured analysis matrix was developed based on the components of PRECEDE-PROCEED model and JD-R model in MAXQDA (10) software. Coding was done through an iterative process, considering differences and similarities, placing them in subcategories and categories. In the process of analysis, undecided texts contained meaningful codes. Despite the relevance of undecided texts and codes to the research question, they were not in any category. In inductive content analysis, concepts are obtained from data. Therefore, in the second step, an unstructured analysis matrix was created. Open coding was done for undecided texts. All remaining codes were grouped according to differences and similarities. Then new categories and subcategories were named based on the general concept of the codes of each group.

Two researchers coded the transcripts. To increase inter-rater coding reliability, the codes and themes were repeatedly discussed by the team of authors, and several themes were reviewed and only the themes that the research team had reached a consensus on were included in the results. Finally, a research psychologist in the field of qualitative studies was used to confirm the achievement of unbiased results and increase the accuracy of the categories. The research team tried not to merge their previous assumptions with the interpretations and extraction of the findings.

## 4 RESULTS

The results of the study are presented in the framework of a conceptual model (Figure 1). In other words, the findings are reported in the order of research questions and based on the steps of the PRECEDE-PROCEED model. In general, the data were placed in 1096 codes, 23 subcategories and 7 categories and three main themes, including individual-environmental assessment, educational and environmental assessment and administrative assessment and policy and intervention alignment.

### 4.1 Individual-Environmental Assessment

The results of this stage of the PRECEDE-PROCEED model are focused on research question RQ1. In general, the data were classified into two categories, including environmental factors and individual factors (Table 1).

#### Environmental Factors

Several environmental factors were identified as the source of stress. In general, these factors were beyond the control of the employees, and their origin was the organization's policies, job-related conditions, and environmental factors not related to the job.

**Job Demands:** Job-related factors that are poorly designed and lead to stress. All participants considered increasing workload as an important source of stress in HCWs. One of the supervisors said:

The biggest problem for HCWs, especially foremen, is the high workload and scope of work, they say: “we are confused about what to do”, now that the Corona pandemic has occurred, their work has multiplied. (FGB)

HCWs had to be accountable to different supervisory units, they did things for them and tried to satisfy the supervisors. A HCW said:

The main problem of our job is to have many branches, and we are in contact with many superiors. (P18)

Participants repeatedly mentioned the pressure of working with clients. The clients were diverse in terms of culture, education, beliefs, values, and income. Therefore, the HCW was sometimes faced with expectations from clients that are outside the health center services. In addition, some clients did not follow the health recommendations. A HCW told the interviewer:

Our clients have different social statuses, moral characteristics and expectations, but they all receive the same service, and they may not be satisfied with our services and may react with inappropriate behavior. (P3)

Lack of job security and uncertain job prospects were the most common concerns of HCWs with fixed-term contracts. Some of them had to endure the problems and not protest in order to avoid the cancellation of the contract.

**Role Characteristics:** Role characteristics were important sources of stress in HCWs. An anxious situation for HCWs was when they find the organization’s expectations to be in conflict with their own or the client’s beliefs. One HCW said about the experience of being severely warned by a superior after performing action contrary to instructions:

Why did my work lead to a supervisor’s notice? I considered the spiritual aspect of that work, I did a charitable work, why did this end?!! (P6)

Lack of transparency in some career goals and expectations had led to confusion and the impossibility of planning for HCWs. A number of HCWs stated that sometimes several performance indicators are mentioned and the HCW is forced to use even rest time to compensate for one indicator. Moreover, all participants identified multitasking as a key problem for HCWs. They believed that managers focus on HCWs. Health care workers are at the forefront of most primary health care and new services. An important source of stress among foremen was having two different roles at the same time; supervisor and health service provider. One of the foremen said:

Our workload is too much, our stress is too much. Every so often I worry about work when I am at home; oh, today they sent me a few letters, I have to do something, I have to do some planning ... (P4)

**Payment Policies:** Participants attributed one of the causes of health care workers’ psychological harassment to some payment policy flaws. For example, payment was only for activities that can be registered in the electronic system of health services, and there was no payment for some activities such as health education. Participants, especially HCWs with fixed-term contracts, considered payment based on the type of employment contract as one of the factors of stress. Employees with fixed-term contracts, despite having the same duties as other employees, received lower salaries and did not receive some bonuses, and felt a sense of injustice. One of the superiors said:

What makes them upset is that they say: “we all did, but how come someone else has received more corona control bonuses or other bonuses! What happened?” ... (FGF)

**Non-occupational Factors :** In addition to environmental factors related to the workplace, environmental factors not related to work, such as parenting, family care, and financial problems, put pressure on HCWs. A HCW who had two children said:

I use break time for nursing mothers' law, which means I work one hour less than my co-workers, and they register their performance in the electronic health system in that one hour, but I cannot do that. I am one hour behind them. (P1)

#### Individual Factors

It was found that beyond the external environment, the personal characteristics and performance of employees, superiors, and managers can lead to stress in HCWs. These factors put pressure on HCWs directly and indirectly.

**Personality Characteristics:** The personality characteristics of the employee were considered by the participants as an effective factor in adopting anxiety-causing behaviors or strengthening stressful conditions in the workplace, such as extreme idealism. A HCW said:

People's personality is definitely effective, people have a calm personality and are very carefree, and people who have an anxious personality know that they are doing their job right, yet they get anxious when it threatens others. (P3)

A number of HCWs were stressed following some beliefs. Such as believing in the insistence of some superiors to find weaknesses in the performance of the HCWs and HCW's perceptions of his or her colleagues. A HCW stated the cause of his or her stress after receiving a warning from a superior about a work error:

I was very upset, because of the egotistical pride of my colleagues. I did not feel punished, I realized in them the feeling of pride and superiority, and it bothered me. (P6)

**Cognitive Factors:** A person's processing and understanding of what happens at the workplace was identified as an effective factor in stress. It was found that when HCWs feel the organization has wronged them or they consider their superiors to be the cause of their lack of progress and promotion, HCWs understand the existence of injustice in the organization and this issue becomes very annoying for them. A HCW who had 18 years of experience and was looking for a job promotion for a long time said:

It may not be understandable to others, but I, who have expanded my skills and expect progress, see injustice. (P11)

On the other hand, it was found that the health care worker's dissatisfaction with her job performance leads to self-blame and stress, and this is due to not meeting the expectations that she has of herself. One participant stated that she would like everyone to be satisfied with her, that her inability to satisfy others makes her anxious.

Some HCWs stated that concerns, such as responding to superiors, performing sensitive services, and reacting in some communication situations, may lead to anxiety.

Job level in the organizational structure was another concept that was mentioned. Some HCWs believed that their job level in the organization is lower compared to some jobs in primary health centers. They considered this to be the cause of their lack of motivation and mental abuse. Several participants believed that some managers and superiors place little value on HCWs working in primary health care centers. A HCW said:

When I see that my job does not have a high value and level in the organization, the position, and level it should have, this is painful; otherwise I really like my job and tasks. (P8)

**Behavioral Factors:** The behavior of HCWs, colleagues, supervisors, and clients in the workplace was stated as an important and common source of stress. HCWs and superiors repeatedly emphasized that the presence of harassment in the workplace is effective behavior that increases the psychological pressure on employees. In this study, it was found that bad manners, tension and poor respect in the relationships of employees, supervisors, and clients caused severe emotional suffering. A superior said about the tension between a supervisor and a HCW:

That supervisor had a strong conflict with the health worker in front of other colleagues and even in front of clients. After this happened, the HCW said: “I am very embarrassed among the people of this village”. (FGH)

In addition, HCWs mentioned the impact of the employee’s reaction and skill in different communication situations. A HCW said about the stress of talking to a client at the time of running out of daily consumables:

When the alcoholic pad runs out, I stress about how to convince the client that we don’t have the vaccine and he or she should come again. (P20)

On the other hand, some participants stated that incomplete performance of tasks, lack of daily planning and carelessness in performing sensitive tasks by HCWs cause anxiety and distress.

**Supervisory Function:** The performance of supervisors was prominently mentioned as an important and effective factor in occupational stress. The unfair performance of managers and supervisors was reported as an important factor in creating feelings of resentment in HCWs. One HCW had been selected as an exemplary employee several times, but managers had promoted another employee who was performing poorly. She said:

What are the rules of job promotion? What are the criteria? This torments me a lot. (P10)

Superiors and HCWs believed that monitoring methods are one of the causes of anxiety. In addition, supervisors’ poor skills in supervision, training, and problem analysis created stressful challenges for HCWs. The challenge that most of the participants revealed was the type of reaction of superiors towards an employee who performs well compared to an employee with poor performance. So, sometimes an employee who worked well was given more work. A manager described this issue as follows:

Entrusting the work to a better employee is the right way because the management system should be based on meritocracy, but the problem is that the assignment of work and benefits are not proportionate. On the other hand, out of compassion, we don’t want the weak employee to lose his or her job. Nonetheless, we don’t have a solution to deal with him, and so we leave his work to his or her colleagues. The mistake is here. (FGK)

## 4.2 Educational and Ecological Assessment

The findings of this phase answer the second research question (RQ2). The data of this stage were placed in the three main categories of predisposing factors, enabling factors, and reinforcing factors (Table 2).

### Predisposing Factors

Predisposing factors are factors that cause behaviors related to stress control, and in other words, they precede behavior.

**Personal Context:** Personal potentials that can have a reducing or increasing role in stress. People’s confidence in their own abilities to perform job duties and overcome psychological pressure was identified as a personal context in stress control. Furthermore, it was found that when HCWs realize that they are useful and valuable people for providing the health of others and consider their job valuable, they experience a good and energizing feeling. A HCW believed:

Everything starts with us. . . I am the one who has to determine whether this screening is positive or not, I am the one who determines whether this child has a developmental disorder or not. This is very enjoyable. . . , that is, I am important. It even becomes clear that my negligence may have worse consequences. (P6)

According to the participants, for some HCWs it was very significant for their efforts to be seen by supervisors and others, and not paying attention to this issue was considered annoying and indifference to them.

On the other hand, HCW’s attitude towards monitoring can be an effective or a hindrance factor for managing workplace-related stressors. One of the participants in the focus group said:

A midwife should follow up on a high-risk pregnant mother. It is a very sensitive task. If you are not careful, it will end at the cost of the life of the mother and her child. In these situations, monitoring and pressure from the organization is necessary. . . . (P21)

**Awareness of Occupational Stress:** HCWs believed that awareness of stress and its causes helps them to perform better in stressful situations. A HCW commented on how awareness can help reduce stress:

When my colleague gets angry, I know why she is angry, this makes my stress go down. (P6)

**Attitudes towards Occupational Stress:** Identifying employees' attitude towards workplace stress is essential for effective interventions and creating stress-controlling behaviors in the workplace. Some HCWs believed that the organization is the cause of workplace stress, while others pointed to the importance of the individual's role. Some participants believed that stress can be controlled. They considered their role as necessary to prevent the physical and mental effects of stress. On the contrary, some participants believed that their stress is involuntary and they cannot control it. A HCW who experienced a lot of stress at work believed:

Maybe it's my fault that I can't control my stress, maybe I get obsessive compulsive. [P8]

**Stress Coping Strategies:** Individual strategies are used to reduce tension and achieve peace in facing stressful situations and factors. Some participants did strategies such as exercising, traveling, listening to music, and reading personal development books to reduce stress. Other strategies were used to solve problems caused by job and workplace and were perceived as very useful, such as being flexible with clients, changing work style, increasing recognition of colleagues and superiors. One of the HCWs said about the importance of coping with stress:

When I prioritize improving a job weakness, my stress goes down. (P4)

HCWs sometimes had emotional self-control to cope with workplace stress. For instance, using spirituality, positive self-talk, keeping silent in front of unpleasant behaviors, changing the mood with funny topics.

On the other hand, some HCWs had maladaptive strategies to reduce pressure, such as negative reaction to job performance, selective performance of tasks, anger, mental conflict, taking medicine, and finally, desire to change jobs. One of the supervisors said about the reaction of HCWs when faced with high work pressure:

When they are under pressure, they do a part of the work and leave the rest. (FGH)

### Enabling Factors

Factors that can directly or indirectly allow a motivation, behaviour, or support policy to be realized to control workplace stress should therefore be changed if needed.

**Job Control:** If HCWs feel that they do not have control over important aspects of their jobs and are faced with a volume of demands and limitations, the conditions for the emergence of stress are provided. It was emphasized that monitoring by supervisors and the accountability of the HCWs is high, and this causes a feeling of high organizational control and low independence among employees. A HCW said about the high monitoring:

It's awful, it makes me feel so bad, it's like we don't know anything and everyone has to tell us what to do. (P6)

The participants, especially the foremen, stated that without the necessary authority for the assigned responsibility leads to stressful challenges for them. On the other hand, HCWs had experienced when they have freedom of action to speed up the completion and order of doing things, they have been able to manage their tasks and do them calmly. A HCW said about the impact of freedom of action on her daily work:

When my work goes as I want and planned, I have no work left, and it makes me not stressed. (P5)



**Managing Change:** How occupational and organizational changes (including the transfer of HCWs, the addition of new programs, and changes in guidelines) had created pressures and challenges for HCWs. The participants mentioned examples where the unexpected sending of a transfer letter and forcing the HCW to change the workplace had caused a disturbing shock to the HCW and the foreman.

On the other hand, the importance of education was noted for new changes. However, the participants mentioned experiences of anxiety and high workload that occurred due to poor educational support. A HCW said about the need for timely training on changes in the vaccination registration process:

If they had taught us how to register vaccines correctly from the beginning, we would not have faced this problem now. We have to correct many defects in a very limited time. (P5)

**Access to Employee Health Support Services:** While access to health services improves employee health and well-being, the participants claimed that not only is there no special medical service for employees in their organization, but they experience concerns such as spending time on accessing health services and staying in the appointment process. Regarding access to a mental health professional, a HCW said:

We have a psychologist in our center (for clients). She comes and talks to us when we have a problem. That's great. (P2)

Reinforcing factors

Factors that lead to the pursuit of stress control strategies, good job performance and provide continuous motivation, reward, and encouragement to maintain them.

**Superior Support:** It was found that managers and superiors can reduce the stress and mental pressure of HCWs and increase job motivation by encouraging, providing facilities and trusting in the health care worker's abilities. A HCW who was monitored several times by the ministry said:

When they come from the ministry to inspect, the manager can be effective in reducing stress. For example, our manager comforted us and said: "don't worry, you are doing your work very well". (P10)

According to the participants, HCWs' motivation to correct job weaknesses increased when supervisor support and encouragement was felt in their monitoring feedback. In addition, it was reported that providing opportunities for HCWs to express their demands and supporting them in work and non-work problems and concerns creates a pleasant feeling of security and peace for HCWs.

In contrast, a supervisor said about the need for a responsible person to support employees who are in trouble:

We had a HCW who was involved in a serious insurance problem. She even thought of killing herself and her child. She had referred to the central office many times, but nothing was done for her... , she said: "there was no one to hear my words ..." (FGF)

**Social Support:** Most of the participants mentioned the importance of emotional support from colleagues and family in facing job pressures. It was also mentioned that when the volume of work is high, the participation of colleagues is an important source of support, and occasionally this support has two-way effects. A foreman said about the consequences of helping her colleague in a critical situation:

Every day, she leaves a note on my desk: "Thank you for being you, you are the best", I kept all those notes, those notes have positive energy and give me motivation and peace. (P16)

Health care workers described positive feedback from clients as one of the motivating factors at work. One of the HCWs said:

I feel that when the client is satisfied, as much as she says one word: "Have a good future", I feel very satisfied. (P15)

**Internal Reinforcement following Optimal Job Performance:** All HCWs experienced a pleasant feeling of satisfaction and peace after solving clients' health problems or performing their job duties satisfactorily. A HCW said of her feelings:

When a mother can't breastfeed her baby, the baby rejects the mother's breast, and I help the baby to accept the mother's breast. It's really an excellent feeling for me and the mother because I managed to save the mother from anxiety and discomfort. (P5)

#### 4.3 Administrative and Policy Assessment and Intervention Alignment

The findings of the third research question (RQ3) were categorized into three categories, including development of policies to deal with workplace stress and development of workplace stress coping behaviors (Table3).

##### Development of Policies to Deal with Workplace Stress

Establishing policies and laws to implement, develop, and strengthen effective organizational interventions to reduce workplace stress is critical.

**Structural Development of the Organization:** In order to effectively implement a mental health promotion program in the workplace, creating reforms and new laws is a necessary issue. The participants considered it important to redesign the roles through the division of work and based on the specialized division of tasks, assigning tasks based on individual characteristics and capabilities, and redesigning the role of the foreman. A manager said:

Each person has special abilities and conditions. I have to consider these in the selection of my employees. This person is useful for training, this person is useful for executive work, and this person is suitable for monitoring. (FGK)

Managers and supervisors considered the changes in the executive management process of the organization as important, including the modification of some work processes to reduce the workload and improve the job skills training. In addition, the allocation of payments based on the workload or job sensitivity was considered important. To organize the job promotion system and eliminate the feeling of being oppressed among the HCWs, the necessity of setting up a specific framework for job promotion was emphasized. Moreover, the participants of this study considered it important to involve HCWs for carefully examining the stressful factors of the work environment, discovering efficient solutions, deciding how to make changes, and handing over responsibilities. One of the supervisors said:

It is better to hold a meeting for HCWs and ask them about their problems and suggestions and give their opinion. (FGG)

**Developing Constructive Supervision:** According to the participants, especially the supervisors, to reduce the stressful monitoring, it is necessary to revise the monitoring techniques. In this regard, issues such as conducting supervision based on problem-solving, improving supervisors' supervisory skills, and improving methods of dealing with poor performance were mentioned. Regarding how to deal with a weak employee, a supervisor said:

We have to see what the problem is, maybe there is a problem with the work process, and maybe we have to solve that problem ourselves. (FGD)

**Development of Psychological Support:** To develop psychological support for HCWs, the participants, especially in the focus groups of superiors, identified various dimensions, including the support and positive guidance of supervisors, supporting them in work and non-work problems, and carrying out periodic mental health examinations. A HCW said in a focus group:

It is enough for the supervisors to see my positive points, this gives me a lot of peace. (P17)

Development of strategies to increase motivation and encouragement of HCWs was expressed as a supporting factor. Supervisors believed that for motivational support, in addition to monetary rewards, non-monetary rewards are also effective, such as providing a desired job position for the employee or verbal encouragement. A HCW said about the positive effect of the supervisor's verbal feedback:

You will be happy when the supervisor praises you, "OK, you did your job very well." (P7)

#### Development of Workplace Stress Coping Behaviors

In addition to organizational interventions, behavioural and educational interventions were found to be useful for reducing the emotional stress of employees.

**Development of Positive Interpersonal Communications:** According to the participants, promoting friendly communication and mutually respect among colleagues and supervisors is effective for reducing tensions and advancing career goals. A foreman said:

Instead of supervisors saying: "It's terrible", they can say: "If you do these things, it will be better, and you can reach the expected level by the end of the year." (P11)

**Development of Stress Management Training:** HCWs emphasized the importance of learning how to manage stress and considered the implementation of training programs in this field necessary. They also mentioned their role in the development of education. A HCW said about the effectiveness of stress management training:

When we all received training and learned those skills because I know how to reduce my stress, I could help my colleagues to reduce their stress by teaching them and vice versa. (P6)

## 5 DISCUSSION

A qualitative study was conducted with the aim of developing a mental health promotion model in the workplace for the design and implementation of interventions. The findings are based on the perception of employees, supervisors, and managers of occupational stress in HCW working in primary health centers. A qualitative study was conducted with the aim of developing a conceptual model for promoting mental health in the workplace for the design and implementation of interventions. The findings are based on the perception of employees, supervisors, and managers of occupational stress in HCW working in primary health centers. To achieve the goal of the research, the PRECEDE-PROCEED planning model was used as the basic model and the concepts of the JD-R model. Based on the PRECEDE-PROCEED model, it was discovered that first the stressful factors of the workplace were identified, then the effective factors to control workplace stress. Finally, the necessary factors for the implementation of workplace stress interventions at the levels of organizational management policies and the development of stress control training were identified.

Based on the results of this research, workplace stress has environmental and individual origins. Job demand is an important environmental factor. In previous studies, the effect of high job demand on increasing mental pressure, stress and poor job performance was observed (Broetje et al., 2020; Deng, Guo, Ma, Yang, & Tian, 2019). According to what was determined in this study, HCWs have a high workload due to their extensive duties. Furthermore, they have to answer to multiple high-level organizational units. As a result of this volume of demands, it significantly causes confusion and anxiety for HCWs. In this study, the pressures were exacerbated by the outbreak of coronavirus disease. Moreover, HCWs deal with a diverse range of clients (culturally, socially, economically, and educationally). This issue confronts the HCWs with many challenges. Similar to this finding, Kool et al ( 2019) found working in diverse populations a job demand. These pressures were more in HCWs with fixed-term contracts. In addition to the mentioned factors, they were afraid of contract termination and unemployment after the end of the contract, and they endured a lot of pressure to satisfy their superiors or clients.

The importance of characteristics of in workplace stress has been noticed and confirmed by many studies (Riley et al., 2018). Role load is one of the characteristics of the role. We found that there is a significant role burden in foremen because they have to perform administrative and organizational tasks in addition to

the multiple tasks of a HCW, and therefore experience multitasking and role pressure. This can be a special job condition for foreman HCWs in Iran. Similar to previous studies (Sonnentag, 2018), we found that role conflict is a stressor. Role conflict is a situation in which a HCW is required to follow a set of conflicting job demands and values. In this study, foremen provide care alongside their colleagues and also have the role of employer for them. Therefore, sometimes foremen get confused on the border between supervision and colleague. In other words, they get involved in psychological pressure in the gap between responsibility and friendly/social relationships.

Moreover, the findings of this study indicated that poor payment policies lead to the perception of injustice among HCWs. In this regard, a study of (Olafsen, Halvari, Forest, & Deci, 2015) introduces distributive justice as an internal motivation against the amount of payment. A review study also found that pay is not a motivator, but the unfairness of payment is annoying (Broetje et al., 2020).

It was found that in addition to the factors related to the work environment, sometimes the aspects related to the social role (wife, parent, and child) can also put pressure on the HCW at the workplace. In this regard, scientific evidence shows that sometimes people are psychologically victims of managing the relationship between work and home (Houlfort, Cécire, Koestner, & Verner-Filion, 2022).

In previous studies, the need to pay attention to multi-layered investigations of workplace stress has been emphasized (Havermans et al., 2017; Moll, 2014). One of the prominent findings of this study was the identification of individual factors along with environmental factors. It was found that the personal characteristics of HCWs can be effective in the occurrence of occupational stress. Other evidence also argued that personality influences stress assessment and coping (Bosmans, Setti, Sommovigo, & van der Velden, 2019; van der Wal, Wallage, & Bucx, 2018). One of the most important individual differences is people's different interpretations of different situations and conditions (Karasek, 1998). In this regard, a significant result of this study is the identification of the cognitive performance of HCWs in the event of stress. Employees experience severe mental pressure when they perceive what is happening in the organization as cruelty and injustice, have negative beliefs about the organization, superiors and colleagues, and also when they cannot accept the organizational position of the role. In addition to the mentioned factors, researchers stated that the quality of relationships between employees at different levels of the organization and relationships with clients is related to occupational stress (Akbar, Elahi, Mohammadi, & Khoshknab, 2016; Tran, Nguyen, Dang, & Ton, 2018). The results of our study similarly show the pressure caused by undesirable behaviors such as harassment, verbal abuse, and humiliating behavior, especially among clients and supervisors.

Another prominent result in this study was the identification of supervisors' performance as an important and stimulating individual factor in the emergence of stress. The weak performance and skills of the supervisors in the field of monitoring and supervision, for the HCWs, results in unfair judgment, pressure, and threats. To our knowledge, very limited studies have investigated the role of supervisor performance in health care workers' workplace stress. This may be due to different regulatory structures among organizations.

Based on the PRECEDE-PROCEED planning model, in addition to discovering the causes of stress in HCWs, the effective factors in modulating stressful factors and creating healthy behavior are determined. One of the special results of this study is the identification of the employee's personal context as the underlying factor in controlling the mental pressure caused by the workplace. Previous studies have pointed out the importance of the role of self-efficacy, self-esteem, and optimism in work-related well-being (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009). Bandura (1997) defined self-efficacy as a person's confidence in his or her ability to organize and implement a certain action to solve a problem or perform a task. Other evidence reported a negative correlation between self-efficacy and stress control (Jurado, Pérez-Fuentes, Ruiz, Márquez, & Linares, 2019). Moreover, it has been found that HCWs with low self-esteem are more exposed to high stress (A. R. Johnson et al., 2020). In this study, it was also found that HCWs who understand the value of themselves and their work and have confidence in their abilities to manage work, have high job satisfaction and motivation. On the other hand, the employee's belief in the impact of his or her job performance in the emergence of stress and the desire to self-monitor, can lead to the discovery and elimination of job performance weaknesses and ultimately reduce stress in some situations.

Employees' knowledge and attitude to stress at work is another important aspect for implementing a targeted stress control intervention at the individual level, especially for training related to stress management. Several theories focus on how beliefs relate to successful behaviors (Eccles & Wigfield, 2002). This issue is especially important from the aspect of the source of control as a predictor of job-related attitudes and behaviors (Galvin, Randel, Collins, & Johnson, 2018; Nykänen, Salmela-Aro, Tolvanen, & Vuori, 2019). According to locus of control theory (Rotter, 1966), believing that others are responsible for creating an outcome, as a source of external control, predicts avoidance behavior in the face of stress. On the other hand, the internal locus of control is related to help-seeking and positive thinking (Gianakos, 2002). Similarly, we found that caregivers who perceive the source of stress as internal factors have different attitudes, such as the importance of their role and the ability to control stress.

Similar to other qualitative studies (Akbar et al., 2016; Gilstrap & Bernier, 2017), the participants of this study tended to use problem-focused, emotional self-control, and maladaptive strategies to cope with stress. The results show that using problem-focused strategies is more useful in controlling stress. A study conducted by Rolin et al (2022) shows that HCWs who used a problem-focused coping style had low perceived threat and high perceived control. Meanwhile, similar to our findings, the study by Bakker & de Vries (2021) reports that employees turn to maladaptive self-regulation strategies when faced with increased job pressure. Furthermore, what we have found out is that some HCWs turn to one of these two modes when faced with job pressures out of necessity and compulsion or voluntarily; first, they manage to provide themselves with false safe conditions by pretending to be committed to work, do less work, and receive their salary. If they do not achieve this goal, they will experience disappointment and even depression.

Enabling factors are needed to achieve stress control in the workplace. Neglecting the enabling factors can act as a barrier to achieving the goal of the intervention. Most studies have identified job autonomy as a moderating factor of stress in the workplace (Broetje et al., 2020; Ibrahim et al., 2021). In this study, it was observed that the existence of high levels of organizational control causes a decrease in the levels of personal control and an increase in psychological pressure.

While occupational and organizational changes are a natural feature of work, if the management of changes is weak, such as forced transfers, it causes resistance to change, feelings of job insecurity, and anxiety (Bagheri Hosseinabadi et al., 2018). Similarly, our findings confirm this issue.

To create and sustain the motivation and workplace stress controlling behaviors, reinforcing factors are needed. The reinforcing factors in this present study have individual, social and organizational aspects. We found that when HCWs feel that they are supported by managers and supervisors, there is a sense of commitment, peace of mind, and reduced anxiety. Receiving feedback from the manager can strengthen performance and motivation, and the lack of it may be the cause of workplace stress (Randall R. Ross, 2000). We found that if performance feedback is accompanied by guidance and encouragement, it can motivate and improve performance; otherwise it can be a key stressor. Also, praise and recognition from the supervisor and clients is effective support. In addition, according to the findings of Kokoroko and Sanda (2019) and our study, the support of colleagues in the form of work partnerships and emotional support is also important in reducing stress. Although the HCWs participating in our study had the same duties, the foremen, who had another different and administrative role, reported poor co-workers' support in increasing work and psychological stress. It seems that the difference in tasks can affect the importance of co-worker support. Similarly, the findings of several studies emphasize the importance and positive impact of organizational and social support on improving workplace mental health and job motivation (Hayward, McVilly, & Stokes, 2020; Kisely et al., 2020; Moll, 2014).

Moreover, the participants of this study repeatedly mentioned the understanding, importance and impact of internal rewards, such as personal satisfaction from completing an activity and gaining a sense of competence. Other studies have acknowledged the importance of intrinsic rewards in increasing motivation and improving job performance (Anjum, Islam, Choudhury, & Saha, 2021; Manzoor, Wei, & Asif, 2021; Senanayake, 2021).

Finally, the results of this research show that it is important to develop, change and revise organizational

policies, managerial and supervisory approaches to make changes and implement interventions in the workplace. It seems necessary to pay attention to increasing job authority and participation for changes among HCWs and especially foremen. In this regard, Kool et al (2019) reported that a high level of independence is required both for service delivery and organizational/administrative aspects of the job. Organizations can minimize organizational control by redesigning jobs, developing new skills, and empowering employees for autonomy (Fagerlind Ståhl, Ståhl, & Smith, 2018; Weinberg, Sutherland, & Cooper, 2010). Furthermore, job changes can be done with the participation of employees and provide them with the opportunity to influence the changes.

Similar to a review study, we found that constructive supervision not only protects the individual from the negative effects of stress (Mcvicar, 2016), but also increases the productivity and motivation of employees. Therefore, it seems important to empower managers and supervisors by focusing on improving supervisory techniques and skills, positive support and guidance in monitoring, and adopting appropriate policies to deal with poor performance.

On the other hand, the findings of this study show that, for the implementation of interventions at the individual level, the development of effective behaviors for stress control, including the improvement of interpersonal relationships and stress management strategies training, is needed. In addition, the results of our study indicate that the participants have a desire to increase knowledge and skills related to stress management. Considering the inevitability of some stressors in health-related professions and the impact of individual stressors, this argument seems reasonable.

## 6 STRENGTHS and LIMITATIONS

As far as we know, this is the first qualitative study in Iran that focused on occupational stress among HCWs working in primary health care centers.

On the other hand, the samples were heterogeneous because the HCWs were from different cities and health centers. Finally, by considering different points of view, comprehensive findings were obtained. This is a strong point for this study.

Another strength is that the individual interviews in this study were conducted before the outbreak of the coronavirus disease, and the focus groups were conducted at the same time as the outbreak of the disease. Therefore, the findings of one of the most sensitive job conditions of HCWs were included in our study.

However, several limitations should be considered in this study. Since, in the primary health care system of Iran, HCWs are mostly women, there was a limitation for this study, that the participating HCWs were all women. Therefore, findings related to gender differences in the perception of workplace stress may not be observed in our study. In addition, the findings of this study are based on the structure of Iran's health system, some of our findings may not be meaningful in other countries.

## CONFLICT OF INTEREST

We have no known conflict of interest to disclose.

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**Table 1** Categories, Subcategories, and Main Codes of Individual-Environmental Assessment Theme

Category	Subcategory	Main Codes
Environmental factors	Job demands	Workload Responding to different units of the organization Client service challenges Lack of job security Job content Working hours Physical work environment
	Role characteristics	Role conflict Role ambiguity Role load
	Payment policy	Injustice in certain payments Lack of performance-based payment Payment based on employment status
	Non-occupational factors	Family issues Financial worries Being the parent
Individual factors	Personality characteristics	Anxious personality Idealism Work conscience

Category	Subcategory	Main Codes
	Cognitive factors	Beliefs about the organization's climate Perceiving injustice Expectations from Self Job Concerns
	Behavioural factors	Interpersonal communication in the workplace Employee job performance
	Supervisory function	Unfair performance of supervisors Monitoring methods The pressure of superiors on health care workers Supervisor skills

**Table 2** Categories, Subcategories, and Main Codes of Educational and Ecological Assessment Theme

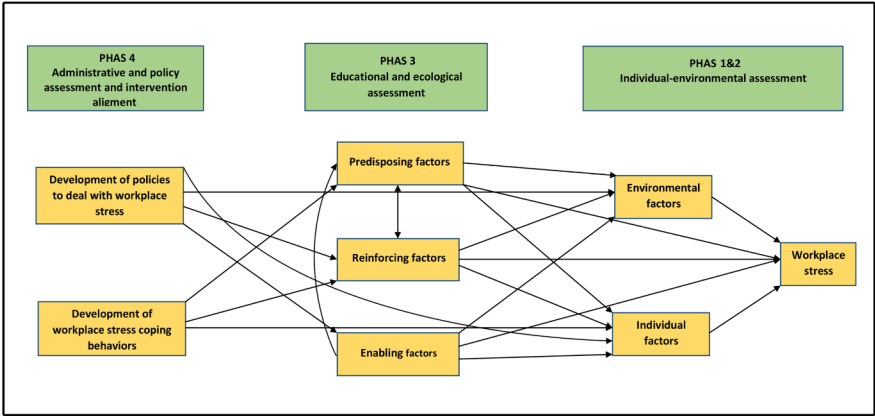
Category	Subcategory	Main Codes
Predisposing factors	Personal context of the employee	Self-confidence Perceiving self-worth Belief in having a worthwhile job Attitude about monitoring Self-monitoring
	Awareness of occupational stress	Awareness about stress management Awareness of the causes of stress Defining a stressful personality
	Attitudes towards occupational stress	Perceived beliefs to the cause of stress Perceived beliefs about stress management Perceived concept of stress
	Stress coping strategies	Relaxing strategies Problem-focused coping Emotional self-control Maladaptive strategies
Enabling factors	Job control	High responsiveness Responsibility without authority Unattainable goals Ignoring the opinions of employees Being forced to do certain things without the right to choose Freedom to plan daily tasks
	Change management	Forced transfer of health care workers Poor training support for new instructions Frequent changes
	Access to employee health services	Lack of special health care services for health workers No allotment of medical leave for health care

Category	Subcategory	Main Codes
Reinforcing factors	Superior support	Encouraging Health Care Workers Superior confidence in the ability of employees Motivating monitor Provide opportunities for employees to express their demands Understanding employee concerns
	Social support	Family supportive behaviour Colleagues' emotional support Colleagues participation Positive client's feedback
	Internal reinforcement following optimal job performance	The pleasant feeling of helping people improve their health A sense of self-satisfaction following a favorable job performance Sense of competence

**Table 3** Categories, Subcategories, and Main Codes of Administrative and policy Assessment and Intervention Alignment Theme

Category	Subcategory	Main Codes
Development of policies to deal with workplace stress	Structural development of the organization	Job redesign Change in executive management performance Job skills training Performance-based payment Determining the framework of job promotion Employee participation in decision-making
	Developing of constructive supervision	Supportive monitoring and positive guidance Focused supervision on problem-solving Improving supervisory skills Improving how to respond to poor performance Remote monitoring
	Development of psychological support	Strategies to increase the motivation of HCWs Supporting employees who are in trouble Creating mental health services for employees
Development of workplace stress coping behaviors	Developing positive interpersonal communication	The importance of friendly relations and mutual respect in the workplace Improve the behavior of supervisors during monitoring Getting feedback from employees about supervisors

Category	Subcategory	Main Codes
	Development of stress management training	The need for stress management training Teaching stress management to colleagues The ability to help reduce the stress of colleagues



**Figure 1** PRECEDE-PROCEED model based on participants' perceptions to reduce workplace stress