AOSIS

The effect of intolerance of uncertainty and worry on the intent to leave work among healthcare employees

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Purpose: This study aimed to investigate the effect of intolerance of uncertainty and anxiety on turnover intention in healthcare workers.

Design/methodology/approach: This study is a cross-sectional field research based on the quantitative descriptive survey model. A total of 234 volunteer healthcare workers participated in the research. To collect data for the study, a sociodemographic questionnaire prepared by the authors and three subject-related scales were used. Data were collected via Google Forms.

Findings/results: The relationship between intolerance of uncertainty, worry and intention to leave work was found to be positive. The effect on intention to leave work of intolerance of uncertainty and worry was found to be positive.

Practical implications: In this study, 71.8% of the participants stated that they did not want to do their current job. This shows that healthcare workers are extremely dissatisfied with their situation and conditions. It would be appropriate for health system managers to work on improving factors such as working conditions, psychology of health workers and economic conditions.

Originality/value: It is thought that the results of the study will contribute to the literature, health professionals and managers, and health policy makers.

Keywords: intolerance; uncertainty; worry; intent to leave work; healthcare employees.

Introduction

Concerns about the working conditions and assumptions are a perpetual source of stress and uncertainty for healthcare employees worldwide. This situation also affects their intention to leave work. Such scenarios are further exacerbated by the coronavirus disease 2019 (COVID-19) pandemic that we have experienced in recent years. In addition to affecting mental and physical health, the COVID-19 pandemic has resulted in significant rates of morbidity and mortality around the globe. It was believed that isolation and quarantine were the most effective ways to control infection. While the specifics of restrictions varied from nation to nation, confinement to one's home and prohibitions on unnecessary public activities were commonplace. People are known to feel more psychologically distressed and to experience unpleasant feelings such as dread, anxiety, and confusion in these situations (Di Blasi et al., 2021).

Numerous organisations across the globe have been compelled by the COVID-19 pandemic, a socioeconomic crisis, to abandon their conventional corporate structures more quickly by using strategies like remote working. Organisations now need to consider sustainability more because of the unpredictable and rapidly changing business environment (Bussin & Swart-Opperman, 2021).

Health facilities should be prepared to tackle any situation when it comes to staff management. In times of crisis such as pandemics, employees feel the impact of work-related stress more. Overtime and irregular work schedules are two factors that contribute to workplace stress (Pieters & Matheus, 2020).

Studies in the field have determined that intolerance of uncertainty is a potential individual factor that may increase the risk of anxiety related to COVID-19. In the context of COVID-19 pandemic, high levels of intolerance to uncertainty may contribute to increased health anxiety by further exacerbating the negative effects associated with the perceived risk of COVID-19 infection and death (Tull et al., 2020). All these situations may especially affect healthcare

workers. Healthcare workers' work engagement, job satisfaction, perceived quality of care, and turnover intention are key indicators of the performance of healthcare organisations. These components are important and interrelated factors that influence culture and performance, workplace environments, and overall patient outcomes (Wei et al., 2023).

There is also a shortage of healthcare providers in many healthcare institutions and increases in staff turnover rates, especially among nurses (Salahat & Al-Hamdan, 2022). For this reason, necessary scientific studies have been carried out to determine and analyse the reasons why healthcare workers leave their jobs. Although there have been various studies (mentioned above) on the intention to quit among healthcare workers in the literature, our research aims to analyse the effect of intolerance of uncertainty and worry with regard to the intention to quit and is expected to contribute to the field. Healthcare personnel may confront crisis conditions in the future. It would be helpful to take precautions against future crises through such scientific investigations. What type of pandemics, et cetera, would they expect? It would be beneficial to take precautions against future crises through such scientific studies.

In our study, we aimed to investigate the effect of healthcare workers' concerns in this environment of uncertainty on their intention to quit, especially in unusual, unexpected global pandemic situations such as COVID-19.

This study aims to contribute to the literature. Further investigation of this issue with different research methods would be beneficial.

Intolerance of uncertainty

Intolerance of uncertainty is an individual differences variable that indicates an individual's evaluation of ambiguous or unclear situations as threatening. Individuals with high intolerance of uncertainty react negatively to uncertain situations at emotional, cognitive, and behavioural levels. Intolerance of uncertainty is also strongly associated with worry (Ranney et al., 2019).

Individuals with high levels of intolerance of uncertainty tend to evaluate ambiguous or uncertain situations as dangerous, stressful, and distressing. For these individuals, any risk of negative outcomes is perceived as a threat. Considering the degree of uncertainty present in daily life, intolerance of uncertainty is thought to contribute to the chronic worry and anxiety observed in gereralised anxiety disorder (GAD) (Ruggiero et al., 2012).

Intolerance of uncertainty has been defined as a dispositional trait that refers to the difficulty in tolerating a negative affective state, triggered by a lack of information, resulting in the situation being perceived as uncertain. Intolerance of uncertainty and fear of infection are two relevant risk factors associated with depression, generalised worry, hopelessness,

and suicidal ideation during the COVID-19 pandemic (Di Blasi et al., 2021).

Intolerance of uncertainty is positively associated with many psychological outcomes, ranging from depression to agoraphobia, occupational burnout, and fear of COVID-19. Studies also show that intolerance of uncertainty is an important feature in determining the negative impact of the COVID-19 pandemic on healthcare workers (Yıldırım et al., 2023). Intolerance of uncertainty is a determinant that leads to a negative attitude among healthcare professionals towards their work. Investigating the effect of this negative attitude on the intention to leave the job is important in preventing the shortage of healthcare workers in the future.

Worry

The predominant apprehensive feelings around potential unfavorable future events define worry as a cognitive activity. For a number of reasons, worry is a reliable gauge of the severity of GAD. Other worry disorders do include worry, but it is typically less than in GAD (Ruggiero et al., 2012).

Worry can be defined as a chain of thoughts and images that have relatively uncontrollable negative effects. Excessive and uncontrollable worry is a key feature of GAD, which affects approximately 2% of the population at any time. Intolerance of uncertainty, on the other hand, is defined as a dispositional trait resulting from a set of negative beliefs about its connotations and consequences, and is supported by evaluations such as 'uncertainty is dangerous', 'uncertainty is intolerable' and 'I cannot cope with it'. Additionally, intolerance of uncertainty is important in terms of both creating and maintaining worry (Britton et al., 2019).

There is a valid evidence base to support the inclusion of intolerance of uncertainty in a cognitive model of worry. Individuals with high levels of intolerance of uncertainty tend to overestimate the likelihood of negative outcomes and seek more information before making decisions with confidence. These individuals also tend to view uncertainty as threatening, unacceptable, and overwhelming, while those with low levels of intolerance to uncertainty may view it as solvable and acceptable (Meeten et al., 2012; Wright et al., 2017).

The predominant apprehensive feelings around potential unfavorable future events define worry as a cognitive activity. It is further discussed that it reflects an individual's negative beliefs about uncertainty, a lack of confidence in their ability to cope with uncertainty-related distress and the tendency to experience uncertainty as stressful. Intolerance of uncertainty is often researched and discussed with worry, with a variety of studies conducted in both clinical and non-clinical populations (Wright et al., 2017).

In studies conducted in the field, the physical and mental health problems of healthcare workers are comprehensively

defined (Utzet et al., 2023). However, there are a limited number of studies investigating the effect of worry and intolerance of uncertainty on the intention to leave job among healthcare workers. Our study aimed to reveal the effect of both factors on intention to leave.

Intention to leave work

Intention to leave work can be defined as a conscious or cautious decision or tendency of employees to leave the organisation (Akyüz & Equalti, 2015). Current turnover rates can be used to estimate the likelihood of employees leaving their jobs, as people tend to follow through with their intentions (Jiang et al., 2019).

Factors related to leaving the profession are also related to leaving the hospital workplace. Research has consistently demonstrated that a positive general practice environment is linked to decreased intentions to leave the workplace. Furthermore, an employee's intention to leave an organisation is associated with lower organisational commitment, less positive leadership perceptions, and poor work-life balance (Leineweber et al., 2016).

Some studies also show that adverse psychosocial working conditions and mental distress during the COVID-19 pandemic have led many public health workers to quit their jobs. However, which types of psychosocial work hazards have the greatest impact and whether negative experiences of adverse psychosocial working conditions during the pandemic continue to have an impact on public health workers' mental health and turnover intentions have not been adequately researched (Lin et al., 2023). At this point, investigating the effect of worry and intolerance of uncertainty on the intention to leave work among healthcare workers can fill this important gap.

The objective of this study was to examine the impact of intolerance of uncertainty and worry on turnover intention among healthcare workers.

Methodology

This is a cross-sectional field research conducted using the quantitative descriptive survey model. The screening model is generally used to reveal an existing situation, summarise the characteristics of the study population, and develop relevant theories by evaluating the underlying causes of these characteristics (Chambers & Clark, 2012). The research was conducted on healthcare workers and all employees were included in the study. The study was conducted in Istanbul, Samsun, and Bilecik provinces. To determine the sample size, Bryman and Cramer (2001) recommended collecting 5–10 times the number of scale questions because the population size was unknown. Therefore, a minimum of 230 surveys were collected for the study, which consisted of three scales and 46 statements. A convenience (random) sampling method was used to select healthcare workers for the study. This method involved selecting individuals who were easy to reach, suitable for the research, and volunteers (Gravetter & Forzano, 2012). Before the research, an application was submitted to the Samsun University Ethics Committee, and approval for the study was granted with reference number 2021-11 at the meeting held on 12 April 2021. The privacy of the participants was protected by ensuring anonymity and confidentiality of their data. Participants were informed in writing and gave their consent before completing the survey, which was conducted using Google Forms between 30 October 2021 and 11 December 2022.

Data collection tools

Sociodemographic questionnaire

The researchers created the sociodemographic questionnaire based on a literature review. The questionnaire consists of two parts. The first part contains eight questions about personal information such as age, gender, marital status, and job title. The second part contains one question that asks which sector the respondent would prefer to work in if they were to leave their current institution. The confirmatory factor analysis results regarding the data collection tools used are shown in Table 1.

Research model

The model of the research is shown in Figure 1.

The hypothesis will be tested by looking at the effect (regression) analysis for the variables in the research model.

TABLE 1: Estimates of goodness-of-fit index for model.

The criterion of model fit	Good fit	Acceptable fit	Intolerance of uncertainty	Worry	Intention to leave work
			Fit or accept	Fit or accept	Fit or accept
CMIN/SD	$\chi^2/sd \leq 3$	$\chi^2/sd \leq 5$	3.460	2.650	13.480
Chi-square fit test (χ^2) ($p = 0.0$)	$0.05 < p \leq 1$	$0.01 < p \leq 0.05$	0.000	0.000	0.000
RMSEA	RMSEA ≤ 0.05	RMSEA ≤ 0.08	0.103	0.084	0.231
NFI	0.95 ≤ NFI	0.90 ≤ NFI	0.745	0.861	0.953
CFI	0.97 ≤ CFI	0.95 ≤ CFI	0.803	0.908	0.956
IFI	0.95 ≤ IFI	0.90 ≤ IFI	0.805	0.909	0.956
RMR	0 < RMR ≤ 0.05	0 < RMR ≤ 0.08	0.074	0.051	0.055
GFI	0.90 ≤ GFI	0.85 ≤ GFI	0.701	0.869	0.943

Source: Karagöz, Y. (2016). *SPSS 23 and AMOS 23 applied statistical analysis*. Nobel Publishing House

CMIN/SD, Chi-square/standard deviation; RMSEA, root mean square error of approximation; NFI, normed fit index; CFI, comparative fit index; IFI, incremental fit index; RMR, root mean square residual; GFI, goodness of fit index.
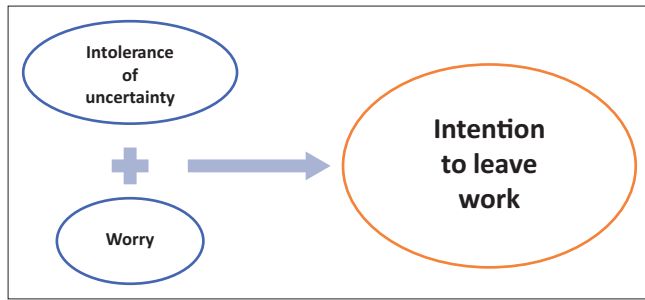
FIGURE 1: The model of the research.

Based on the values considered in the fit model, a χ^2/degrees of freedom (*df*) below five indicates an acceptable fit. The Intolerance of Uncertainty Scale demonstrates an acceptable fit, while the Worry Scale demonstrates a good fit. The RMSEA index only shows an acceptable fit in the Worry Scale. The acceptable agreement is observed in the NFI and CFI indices, as well as the IFI index, the Worry Scale, and the Intention to Leave Work Scale. The RMR index on the Worry Scale and the Intention to Leave Work Scale show good agreement, while acceptable compliance is observed in the Intolerance of Uncertainty Scale. The GFI value indicates an acceptable fit on the Worry Scale. The Intention to Leave Work Scale also shows good compliance. Our study's scales have a satisfactory fit, as indicated by the fit indices (Karagöz, 2016).

Intolerance of uncertainty scale

This scale was developed by Sarı and Dağ (2009) and consists of 26 items and 4 sub-dimensions. The answers to the items are scored between 1 (Does not describe me at all) and 5 (Describes me completely). This scale is a five-point Likert-type scale. The scale comprises four factors: stress and sadness caused by uncertainty (nine statements), negative self-evaluations associated with uncertainty (eight statements), disturbance caused by not knowing the future (four statements), and inhibition of action due to uncertainty (five statements). The Cronbach's alpha internal consistency coefficient for the total scale was 0.79. For the subscales, it was 0.88 for 'Uncertainty is stressful and distressing', 0.79 for 'Negative self-evaluations related to uncertainty', 0.79 for 'Not knowing the future is disturbing', and 0.79 for 'Uncertainty prevents me from taking action'. No items needed to be reverse-coded when calculating the score. The minimum score on the Intolerance of Uncertainty Scale is 32, while the maximum score is 127. According to Sarı and Dağ (2009), high scores on the scale indicate a high level of intolerance to uncertainty. The overall scale's reliability analysis in this study yielded a Cronbach's alpha coefficient of 0.951. Furthermore, the obtained reliability values were 0.891 for the factor of uncertainty as a stressful and distressing experience, 0.836 for negative self-evaluations related to the uncertainty dimension, 0.809 for the dimension of feeling disturbed by not knowing the future, and 0.824 for the dimension of uncertainty preventing action.

Worry scale

The worry scale, developed by Yılmaz et al. (2008), comprises 16 items and two subscales. Responses are scored

on a five-point Likert scale ranging from 1 (Does not describe me at all) to 5 (Describes me completely). The scale comprises two factors, namely Presence of Worry (11 statements) and Absence of Worry (5 statements) and has a Cronbach's alpha internal consistency coefficient of 0.91 for the total scale, 0.92 for the Presence of Worry subscale, and 0.68 for the Absence of Worry subscale. When calculating the score, Absence of Worry statements must be reverse coded. The worry scale has a minimum score of 23 and a maximum score of 64. High scores on the scale indicate high levels of worry among participants (Yılmaz et al., 2008). The overall scale's reliability analysis yielded a Cronbach's alpha coefficient of 0.919. Furthermore, the study obtained reliability values of 0.921 for the Presence of Worry subscale and 0.726 for the Absence of Worry subscale.

Intention to leave work scale

Intention to leave work scale, which consists of four items scored on a five-point Likert-type scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), was used by Gerçek et al. (2015) to measure a single dimension. The total scale demonstrated high internal consistency with a Cronbach's alpha coefficient of 0.91. It uses objective language and precise word choice while adhering to formal register and grammatical correctness. The text is clear, concise, and follows a logical structure. The formatting is consistent and follows a conventional structure, with clear citations and footnotes. No changes were made to the text as it already meets the desired characteristics. The text avoids bias and maintains a balanced perspective. Finally, the text does not introduce any new content beyond the given fragment.

Hypotheses of the research

The hypotheses developed for the research are expressed next:

H_1: There is a relationship between intolerance of uncertainty and worry.

H_2: There is a relationship between intolerance of uncertainty and intention to leave work.

H_3: There is a relationship between worry and the intention to leave work.

H_4: Intolerance of uncertainty and worry affect the intention to leave work.

Analysis of data

The data were analysed using statistical software packages SPSS 25 and AMOS 24. Primarily, the normality, homogeneity, and independence of the data were checked. Normality was confirmed by examining the skewness and kurtosis values, as well as the closeness of the mean and median levels. Parametric tests were used to analyse the data. Descriptive statistics were analysed using frequency, percentage, arithmetic mean, median, standard deviation, minimum, and maximum values. Descriptive statistics were analysed using frequency,

percentage (Table 2), arithmetic mean, median, standard deviation, minimum, and maximum values (Table 3). The correlation coefficient test was used to evaluate the relationships between the scores of the Intolerance of Uncertainty Scale, Worry Scale, and Turnover Intention Scale. Simple and multiple regression analysis was conducted to determine whether intolerance of uncertainty and worry predicted the intention to leave.

Ethical considerations

Ethical clearance was received from Samsun University Ethics Committee (E-59760180-044-4494).

Results

Roughly half of the participants fall within the age range of 36–45 years. The proportion of female participants (71.4%) is significantly higher than that of male participants (28.6%). The percentage of married individuals (63.7%) is approximately double that of single individuals (36.3%). Over half of the employees (51.3%) hold a bachelor's degree. Almost half of the participants (44.9%) work in midwifery, nursing, or health officer roles (Table 2).

The study found that the highest average scores were on the Intolerance of Uncertainty Scale ($\overline{X}_{max}$ = 127; $\overline{X}$ = 84.67), the Worry Scale ($\overline{X}_{max}$ = 64; $\overline{X}$ = 45.86), and the Intention to Leave Work Scale ($\overline{X}_{max}$ = 20; $\overline{X}$ = 11.19).

When examining the sub-dimensions, the most significant mean score was found in the Intolerance of Uncertainty Scale, which is both stressful and distressing ($\overline{X}_{max}$ = 45; $\overline{X}$ = 32.09). In the Worry Scale, the highest score was in the Presence of Worry dimension ($\overline{X}_{max}$ = 55; $\overline{X}$ = 32.69) (Table 3).

Correlation analysis

The correlation analysis revealed a positive, moderate, and statistically significant relationship between Intolerance of Uncertainty and Worry (r = 0.560; $p < 0.01$). Additionally, a positive, moderate, and statistically significant relationship was found between the sub-dimensions of the Intolerance of Uncertainty Scale, specifically 'Intolerance of Uncertainty is stressful and distressing', and Worry (r = 0.426; $p < 0.01$). A moderate and statistically significant positive relationship was found between negative self-evaluations regarding the Intolerance of Uncertainty Scale, specifically its subscale

'Not knowing the future is disturbing', and Worry (r = 0.584; $p < 0.01$). A moderate and statistically significant positive relationship was found between negative self-evaluations regarding the Intolerance of Uncertainty Scale, specifically its

TABLE 2: Socio-demographic characteristics of the participants (N = 234).

Variables	n	%
Age (years)		
18–25	29	12.4
26–35	61	26.1
36–45	104	44.4
46+	40	17.1
Gender		
Male	67	28.6
Female	167	71.4
Marital status		
Married	149	63.7
Single	85	36.3
Level of education		
Secondary school	14	6.0
Associate degree	46	19.7
Undergraduate	120	51.3
Master degree	46	19.7
Title		
Midwife – Nurse – Health officer	105	44.9
Physician – Dentist – Specialist physician	18	7.7
Executive	15	6.4
Administrative staff	44	18.8
Other healthcare worker	52	22.2
Sector		
Public	121	51.7
Private	103	44.0
Others	10	4.3
Department		
Administrative and Financial Services	86	36.8
Medical Services	148	63.2
The way of work		
Relay	40	17.1
Day shift	159	67.9
Shift	6	2.6
Mix	29	12.4
If you were to leave your current institution, which sector would you like to work in?		
Education	29	12.4
Others	56	23.9
Private sector	43	18.4
Again, healthcare sector	55	23.5
Public	24	10.3
Do your own thing	16	6.8
Reluctance to work	11	4.7

TABLE 3: Descriptive statistics of scales and sub-dimensions, reliability analysis results (N = 234).

The scales and sub-dimensions	Min	Max	$\overline{X}$ ± SD	Median	Cronbach's alpha α
Intolerance of uncertainty scale	32	127	84.67 ± 17.54	83	0.951
Uncertainty is stressful and distressing	11	45	32.09 ± 6.59	32	0.891
Negative self-evaluations related to uncertainty	10	40	24.34 ± 5.57	24	0.836
Not knowing the future is disturbing	4	20	12.98 ± 3.18	13	0.809
Uncertainty prevents me from taking action	5	25	15.25 ± 3.86	15	0.824
Worry scale	23	64	45.86 ± 6.32	45	0.919
Presence of worry	11	55	32.69 ± 7.82	32	0.921
Absence of worry	5	23	13.18 ± 3.24	14	0.726
Intention to leave work scale	4	20	11.19 ± 4.23	11	0.886

Min, minimum; Max, maximum; SD, standard deviation.

subscale 'Not knowing the future is disturbing', and Worry ($r = 0.584$; $p < 0.01$). A moderate and statistically significant positive relationship was found between negative self-evaluations regarding the Intolerance of Uncertainty Scale, specifically its subscale 'Not knowing the future is disturbing', and Worry ($r = 0.584$; $p < 0.01$). Additionally, a positive and statistically significant relationship was found between the subscale 'Not knowing the future is disturbing' and Worry ($r = 0.512$; $p < 0.01$). A statistically significant relationship was found between the Intolerance of Uncertainty Scale's subscale 'Intolerance of Uncertainty prevents me from taking action' and Worry ($r = 0.554$; $p < 0.01$). Furthermore, a statistically significant relationship was found between Intolerance of Uncertainty and Intention to leave ($r = 0.198$; $p < 0.05$). A statistically significant relationship was found between Worry and Intention to Leave Work ($r = 0.154$; $p < 0.05$). However, it is important to notice that this relationship is very low and therefore may not have practical significance (Table 4).

Based on these findings, the following hypotheses were confirmed:

H₁: There is a correlation between intolerance of uncertainty and worry.

H₂: There is a correlation between intolerance of uncertainty and intention to leave work.

H₃: There is a correlation between worry and intention to leave work.

The results support these hypotheses.

Regression analysis

Simple regression analyses

Table 5 presents the results of a simple regression analysis conducted to determine the effect of intolerance of uncertainty on the intention to leave work. The analysis established a significant regression model ($F_{(1232)} = 9.433$, $p = 0.002$), indicating that intolerance of uncertainty affects the intention to leave work ($B = 7.153$; $p < 0.05$). The regression model shows that intolerance of uncertainty explains 3.5% of the intention to leave work. Intolerance of uncertainty results in

a 4.8% increase in the intention to leave work. However, it is important to observe that other variables are required to explain the remaining 95.2% change.

Table 6 presents the results of a simple regression analysis conducted to determine the impact of worry on the intention to leave work. No changes in content were made, as per the instructions. The regression model was found to be significant ($F_{(1232)} = 5.621$, $p = 0.002$), indicating that worry affects the intention to leave work ($B = 6.466$; $p < 0.05$). The language used is clear, concise, and objective, adhering to a formal register and precise word choice. The structure is logical and follows a clear progression, with causal connections between statements. The text is free from grammatical errors, spelling mistakes, and punctuation errors. Specifically, worry explains 1.9% of the intention to leave work, causing a 10.3% change. However, it is important to observe that other variables are needed to explain the remaining 89.7% change.

Multiple regression analysis

Table 7 presents the results of the multiple regression analysis conducted to determine the impact of intolerance of uncertainty and worry on the intention to leave work.

The regression model was found to be significant ($F_{(2231)} = 5.035$, $p = 0.007$). The analysis revealed that both intolerance of uncertainty and worry have a significant effect on the intention to leave work ($B = 5.942$; $p < 0.05$). The regression model shows that intolerance of uncertainty and worry account for 3.3% of the intention to leave work. Intolerance of uncertainty results in a 3.9% change, while worry leads to a 4.2% change in the intention to leave work.

The research developed the hypothesis that intolerance of uncertainty and worry affect the intention to leave work. The hypothesis was accepted.

Limitations of the study

The research was conducted on 230 healthcare workers working in Istanbul, Samsun and Bilecik provinces. The

TABLE 4: Correlation analysis between the intolerance of uncertainty scale and its sub-dimensions, the worry scale and its sub-dimensions, and the intention to leave work scale (Pearson Test) ($N = 234$).

The scales and sub-dimensions	1	1.1.	1.2.	1.3.	1.4.	2	2.1.	2.2.	3
1. Intolerance of uncertainty scale (r)	1	0.930**	0.922**	0.911**	0.875**	0.560**	0.644**	-0.461**	0.198**
1.1. Intolerance of uncertainty is stressful and distressing (r)	-	1.000	0.773**	0.837**	0.713**	0.426**	0.535**	-0.459**	0.238**
1.2. Negative self-evaluations related to intolerance of uncertainty (r)	-	-	1.000	0.780**	0.785**	0.584**	0.637**	-0.400**	0.149*
1.3. Not knowing the future is disturbing (r)	-	-	-	1.000	0.760**	0.512**	0.605**	-0.463**	0.173**
1.4. Intolerance of uncertainty prevents me from taking action (r)	-	-	-	-	1.000	0.554**	0.593**	-0.351**	0.134*
2. Worry scale (r)	-	-	-	-	-	1.000	0.916**	-0.261**	0.154*
2.1. Presence of worry (r)	-	-	-	-	-	-	1.000	-0.626**	0.189**
2.2. Absence of worry (r)	-	-	-	-	-	-	-	1.000	-0.156*
3. Intention to leave work scale (r)	-	-	-	-	-	-	-	-	1.000

**, Correlation is significant at the 0.01 level (2-tailed).
*, Correlation is significant at the 0.05 level (2-tailed).
r, correlation coefficient.

TABLE 5: The effect of intolerance of uncertainty on intention to leave work.

Dependent variable	Independent variable	R^2	Adj. R^2	F	B	t	p
Intention to leave work	Constant	0.039	0.035	9.44	7.16	5.33	0.002*
	Intolerance of uncertainty	-	-	-	0.048	3.08	-

*, $p < 0.05$ (level of statistical significance).

TABLE 6: The effect of worry on intention to leave work.

Dependent variable	Independent variable	R^2	Adj. R^2	F	B	t	p
Intention to leave work	Constant	0.024	0.019	5.63	6.47	3.22	0.019*
	Worry	-	-	-	0.103	2.38	-

*, $p < 0.05$ (level of statistical significance).

TABLE 7: The effect of intolerance of uncertainty and worry on intention to leave work.

Dependent variable	Independent variable	R^2	Adj. R^2	F	B	t	p
Intention to leave work	Constant	0.042	0.033	5.035	5.95	2.96	0.007*
	Intolerance of uncertainty	-	-	-	0.039	2.090	-
	Worry	-	-	-	0.042	0.808	-

*, $p < 0.01$ (level of statistical significance).

findings of the study cannot be generalised to all healthcare professionals. The surveys were conducted utilising Google Forms, and it was accepted that the participants answered the questions sincerely.

Discussion

This study investigated the relationship and interaction between intolerance of uncertainty, worry, and intention to leave work among healthcare professionals. All research hypotheses were accepted.

A moderate positive relationship was found between all sub-dimensions of the intolerance of uncertainty scale and worry among healthcare professionals. The exposure to differences increases in today's rapidly changing world. Healthcare professionals often experience stress and worry because of the uncertainty of the situations they encounter. Our study found that those who reported feeling stressed and sad because of intolerance of uncertainty had the highest average.

Brun et al. (2023) analysed 1853 articles and found that intolerance of uncertainty has a negative impact on the decision-making behaviour of healthcare professionals. Research has shown that intolerance of uncertainty can lead to judgement bias and misdiagnosis during the diagnosis phase. Furthermore, it can result in an increased number of consultations, unnecessary test requests, and excessive antibiotic prescriptions.

The study found a statistically significant, positive, and low correlation between the intention to leave and intolerance of uncertainty and worry. Individuals may be hesitant to relinquish their current employment because of apprehension and uncertainty. As a result, the impact of intolerance towards these emotions on the decision to leave is less significant than the correlation between the two.

Mete's (2023) bibliometric analysis of 829 articles on healthcare workers' intention to leave revealed that the COVID-19 pandemic, workload, burnout syndrome, work insecurity, and stress were the most prominent factors influencing the decision to leave.

During the COVID-19 pandemic, people's tolerance for uncertainty may have decreased because of concerns about the disease, mortality rates, and workloads. Our study found that these factors have a slight but positive impact on the intention to leave work.

In times of ambiguity, individuals who cannot tolerate uncertainty may experience increased stress and discomfort, which can have physiological and psychological effects. Employees may tend to leave their jobs to escape the distress caused by uncertainty (Turan & Beydağı, 2023).

Furthermore, the limited impact of intolerance of uncertainty and worry on the intention to leave work can also be attributed to the economic challenges that may arise from quitting a job. Negative self-evaluations resulting from intolerance of uncertainty and worry may cause individuals to hesitate when leaving their current job and establishing a new routine, as it can create difficulties in decision-making.

According to previous studies, healthcare workers' intention to leave work is associated with various factors. These include individual characteristics such as age, gender, educational status, and marital status, as well as work-related factors such as long working hours, low wages, negative relationships with patients and physicians, and insufficient support from their organisations (Jiang et al., 2019). All of these factors impact healthcare personnel's intention to leave work.

Studies in the field of nursing have revealed that voluntary turnover is related to economic and psychological reasons (Bobbio & Manganelli, 2015). Carter and Tourangeau (2012) found a strong negative correlation between nurses' intentions to leave the hospital and their psychological commitment to their work.

In this study, participants were asked which sector they would prefer to work in if they left their current positions. A

total of 23.5% of participants stated they would still choose to work in the health sector because of the profession's sublime values, prestige, and professional satisfaction. It is important to notice that this response may be influenced by positive emotions or a lack of knowledge about alternative career paths. This may cause employees to hesitate to leave their jobs.

In 2020, a study was conducted in China among 703 healthcare personnel, including physicians, nurses, and medical technicians, to investigate the effects of work stress and job satisfaction on the intention to leave. The study found a positive correlation between work stress and intention to leave, and a negative correlation between job satisfaction and intention to leave (Ning et al., 2023). A similar study was also conducted in Turkey. During the analysis of 42 studies on work satisfaction and intention to leave, we found a moderate negative correlation between the two phenomena (Taşkaya & Aksoy, 2023).

However, in our study, when asked 'Which other sector would you like to work in?', 71.8% of participants responded 'I want to work in another sector, including education, private sector, public sector, or start my own business'. There is a significant numerical difference between those who wish to continue their current work and those who desire to work in another sector.

Conclusion

Efforts should be made to improve the working conditions, psychological well-being, and economic circumstances of healthcare workers, who can be considered a qualified labour force. These factors are crucial for providing accurate and uninterrupted health services.

Although there were studies that addressed 'intolerance of uncertainty', 'worry', and 'intention to leave work' our study cases separately, no other study was found that was conducted together on healthcare workers. This study aims to contribute to the literature. Further investigation of this issue with different research methods would be beneficial.

Our research is the first study to examine the effects of intolerance of uncertainty and anxiety on turnover intention among healthcare professionals. Consequently, it is critical to work toward bettering the economic status, psychological health, and working conditions of healthcare professionals, who are regarded as qualified workers. These elements are essential for delivering precise and continuous medical care.

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Competing interests

Authors' contributions

A.Y.S. contributed to conceiving and designing the searching, literature review and performed the analysis. B.U. contributed to the conceiving and designed the searching, planning the method of analysis and performed the analysis. H.K. contributed to conceiving and designing the searching, researched other studies relevant to the subject, collected the data, and wrote the discussion and conclusion.

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Data availability

The authors confirm that the data supporting the findings of this study are available within the article.

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References

Akyüz, B., & Eşitti, B. (2015), Hizmet İşletmelerinde Örgütsel Bağlılığın İş Performansı ve İşten Ayrılma Niyeti Üzerindeki Etkisi: Çanakkale Örnekleminde Bir Araştırma, Bartın University Faculty of Economics and Administrative Sciences Magazine, 6/11, 27.

Bobbio, A., & Manganelli, A.M. (2015). Antecedents of hospital nurses' intention to leave the organization: A cross sectional survey. International Journal of Nursing Studies, 52, 1180–1192. https://doi.org/10.1016/j.ijnurstu.2015.03.009

Britton, G.I., Neale, S.E., & Davey, G.C.L. (2019). The effect of worrying on intolerance of uncertainty and positive and negative beliefs about worry. Journal of Behavior Therapy and Experimental Psychiatry, 62, 65–71. https://doi.org/10.1016/j.jbtep.2018.09.002

Brun, C., Zerhouni, O., Akinyemi, A., Houtin, L., Monvoisin, R., & Pinsault, N. (2023). Impact of uncertainty intolerance on clinical reasoning: A scoping review of the 21st-century literature. Journal of Evaluation in Clinical Practice, 29(3), 539–553. https://doi.org/10.1111/jep.13756

Bryman, A., & Cramer, D. (2001). Quantitative data analysis with SPSS release 10 for windows: A guide for social scientists. Routledge.

Bussin, M.H.R., & Swart-Opperman, C. (2021). COVID-19: Considering impacts to employees and the workplace. SA Journal of Human Resource Management/SA Tydskrif vir Menslikehulpbronbestuur, 19, a1384. https://doi.org/10.4102/sajhrm.v19i0.1384

Carter, M.R., & Tourangeau, A.E. (2012). Staying in nursing: What factors determine whether nurses intend to remain employed? Journal of Advanced Nursing, 68, 1589–1600. https://doi.org/10.1111/j.1365-2648.2012.05973.x.

Chambers, R.L., & Clark, R.G. (2012). An introduction to model-based survey sampling with applications. Oxford University Press.

Di Blasi, M., Gullo, S., Mancinelli, E., Freda, M.F., Esposito, G., Gelo, E.C.G., Lagetto, G., Giordano, C., Mazzeschi, C., Pazzagli, C., Salcuni, S., & Lo Coco, G. (2021). Psychological distress associated with the COVID-19 lockdown: A two-wave network analysis. Journal of Affective Disorders, 284, 18–26. https://doi.org/10.1016/j.jad.2021.02.016

Gerçek, M., Elmas Atay, S., & Dündar, G.İ. (2015). The effect of work life balance and career satisfaction on employees' intention to quit. Kafkas University Faculty of Economics and Administrative Sciences Journal, 6, 67–86.

Gravetter, F.J., & Forzano, L.B. (2012). Research methods for the behavioral sciences (4th ed.). Wadsworth.

Jiang, F., Zhoua, H., Rakofskyb, J., Hua, L., Liuc, T., Wua, S., Liud, H., Liua, Y., & Tang, Y. (2019). Intention to leave and associated factors among psychiatric nurses in China: A nationwide cross-sectional study. International Journal of Nursing Studies, 94, 159–165. https://doi.org/10.1016/j.ijnurstu.2019.03.013

Karagöz, Y. (2016). SPSS 23 and AMOS 23 applied statistical analysis. Nobel Publishing House.

Leineweber, C., Chungkham, H.S., Lindqvist, R., Westerlund, H., Runesdotter, S., Alenius, L.S., Tishelman, C., & the RN4CAST Consortium. (2016). Nurses' practice environment and satisfaction with schedule flexibility is related to intention to leave due to dissatisfaction: A multi-country, multilevel study. *International Journal of Nursing Studies, 58*, 47–58. https://doi.org/10.1016/j.ijnurstu.2016.02.003

Lin, M.W., Wang, Y.T., & Cheng, Y. (2023). Psychosocial work conditions during the COVID-19 pandemic and their influences on mental health risk and intention to leave among public health workers: A cross-sectional and follow-up study in Taiwan. *Safety and Health at Work, 14*(4), 438–444. https://doi.org/10.1016/j.shaw.2023.10.007

Meeten, F., Dash, S.R., Scarlet, A.L.S., & Davey, G.C.L. (2012). Investigating the effect of intolerance of uncertainty on catastrophic worrying and mood. *Behaviour Research and Therapy, 50*, 690–698. https://doi.org/10.1016/j.brat.2012.08.003

Mete, B. (2023). Intention to leave work in healthcare workers: A bibliometric analysis. *MEYAD Academy, 4*, 41–56. Retrieved from https://research.ebsco.com/linkprocessor/plink?id=02d44fa9-713f-3456-a8a1-d31a23f3cffe

Ning, L., Jia, H., Gao, S., Liu, M., Xu, J., Ge, S., Li, M., & Yu, X. (2023). The mediating role of job satisfaction and presenteeism on the relationship between job stress and turnover intention among primary health care workers. *International Journal for Equity in Health, 22*(1), 155. https://doi.org/10.1186/s12939-023-01971-x

Pieters, W.R., & Matheus, L. (2020). Improving general health and reducing burnout of nurses in Namibia. *SA Journal of Human Resource Management/SA Tydskrif vir Menslikehulpbronbestuur, 18*, a1138. https://doi.org/10.4102/sajhrm.v18i0.1138

Ranney, R.M., Behar, E., & Bartoszek, G. (2019). Individuals intolerant of uncertainty: The maintenance of worry and distress despite reduced uncertainty. *Behavior Therapy, 50*, 489–503. https://doi.org/10.1016/j.beth.2018.08.006

Ruggiero, G.M., Stapinski, L., Caselli, G., Fiore, F., Gallucci, M., Sassaroli, S., & Rapee, R.M. (2012). Beliefs over control and meta-worry interact with the effect of intolerance of uncertainty on worry. *Personality and Individual Differences, 53*, 224–230. https://doi.org/10.1016/j.paid.2012.03.016

Salahat, M.F., & Al-Hamdan, Z.M. (2022). Quality of nursing work life, job satisfaction, and intent to leave among Jordanian nurses: A descriptive study. *Heliyon, 8*(7), e09838. https://doi.org/10.1016/j.heliyon.2022.e09838

Sarı, S., & Dağ, İ. (2009). Turkish adaptation, validity and reliability of the intolerance of uncertainty scale, the positive beliefs about worry scale and the consequences of worry scale. *Anatolian Journal of Psychiatry, 10*(4), 261–270.

Taşkaya, S., & Aksoy, A. (2023). The relationship between job satisfaction and intention to quit among healthcare workers in Turkey: A meta-analysis study. *Hacettepe Journal of Health Administration, 26*(1), 115–134.

Tull, M.T., Barbano, A.C., Scamaldo, K.M., Richmond, J.R., Edmonds, K.A., Rose, J.P., & Gratz, K.L. (2020). The prospective influence of COVID-19 affective risk assessments and intolerance of uncertainty on later dimensions of health anxiety. *Journal of Anxiety Disorders, 75*, 102290. https://doi.org/10.1016/j.janxdis.2020.102290

Turan, A., & Beydağ, K.D. (2023). The relationship between intolerance of uncertainty and psychological well-being in women receiving infertility treatment. *Journal of Current Nursing Research, 3*(2), 44–51. Retrieved from https://research.ebsco.com/linkprocessor/plink?id=5241e296-b4bb-3971-bc48-ce4d844ada1e

Utzet, M., Villar, R., Díaz, P., Arjona, M.D.R., Ramada, J.M., Serra, C., & Benavides, F.G. (2023). Dealing with the unknown: Perceptions, fears and worries of SARS-CoV-2 infection among hospital workers. *Gaceta Sanitaria, 37*, 102335. https://doi.org/10.1016/j.gaceta.2023.102335

Wei, H., Horsley, L., Cao, Y., Haddad, L.M., Hall, K.C., Robinson, R., Powers, M., & Anderson, D.G. (2023). The associations among nurse work engagement, job satisfaction, quality of care, and intent to leave: A national survey in the United States. *International Journal of Nursing Sciences, 10*(4), 476–484. https://doi.org/10.1016/j.ijnss.2023.09.010

Wright, C.J., Clark, G.I., Rock, A.J., & Coventry, W.L. (2017). Intolerance of uncertainty mediates the relationship between adult attachment and worry. *Personality and Individual Differences, 112*, 97–102. https://doi.org/10.1016/j.paid.2017.02.039

Yıldırım, M., Çağış, Z.G., & Williams, G. (2023). Fear of COVID-19, intolerance of uncertainty, psychological capital, and positive future expectations: Tests of mediating relationships with healthcare workers. *Archives of Psychiatric Nursing, 45*, 158–163. https://doi.org/10.1016/j.apnu.2023.06.016

Yilmaz, A.E., Gençöz, T., & Wells, A. (2008). Psychometric characteristics of the Penn State Worry Questionnaire and Metacognitions Questionnaire-30 and metacognitive predictors of anxiety and obsessive-compulsive symptoms in a Turkish sample. *Clinical Psychology & Psychotherapy, 15*(6), 424–439. https://doi.org/10.1002/cpp.589