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CONTENTS

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The Effect of Healthcare Professionals' Digital Literacy Status and Knowledge of Telemedicine on Perception of Telemedicine

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Abstract

Aim: The objective is to determine levels of digital literacy, knowledge and perception of telemedicine, becoming important with innovations in communication and information technologies, and to reveal correlations between them.

Methods: In the study, data was collected cross-sectionally, via on-line and face-to-face surveys. 334 healthcare workers from one tertiary and two second-line hospitals were included in the study. Correlations between variables were tested with structural equation model. To determine differences between groups, two sample t-tests were used.

Results: Knowledge of telemedicine was found to mediate the relationship between digital literacy and perception of telemedicine. In this study, perception of telemedicine ($\bar{x}$= 3.392) and digital literacy level ($\bar{x}$= 3.527) were found to be above average, while knowledge of telemedicine was

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found to be below average ($\bar{x}$= 2.090). Perception of telemedicine was found to increase positively in participants with telemedicine experience ($t(332) = 4.979$, $p<0.05$).

Conclusion: The importance of digital literacy and knowledge of telemedicine is revealed in creating positive perception in healthcare professionals about the use of telemedicine. For the success of telemedicine applications, it may be recommended to include these topics in training programs for healthcare professionals.

Keywords: Digital Literacy, Perception of Telemedicine, Knowledge of Telemedicine, Healthcare Professionals

INTRODUCTION

In the provision of health services, problems related to accessibility, deficiencies in human resources, unequal distribution of resources, increasing costs and the inability to provide similar quality health services to all those who demand all together emerge as a problem (Lovett & Bashshur, 1979). Especially in rural populations, it is not possible to provide services that require expertise in health services due to costs and lack of sufficient healthcare workers. Another problem is that this population group has financial difficulties to make progress in accessing health services (Cilliers & Flowerday, 2014). The disability of individuals requesting services also dramatically increases the difficulty of access due to geographical conditions. On the other hand, it is also difficult to maintain the quality of service in the provision of health services according to the determined standards and to improve the quality of service. To achieve this, there is a need for a more qualified medical education, continuous measurement of employee performance and rapid dissemination and measurement of medical knowledge, which is increasing day by day today. But the distance between healthcare workers reduces the reach, communication and control of healthcare workers to each other. Telemedicine has been proposed as a technological response to many of the challenges to healthcare delivery described above (Kılıç & Tosun, 2021; Lovett & Bashshur, 1979).

From past to present, quite different techniques have been developed in both applications and content related to telemedicine. Telemedicine has been defined in different ways by different researchers. One of the most comprehensive definitions has been put forward by the World Health Organization (WHO). According to the WHO, telemedicine defines telemedicine as “the provision of health services by all health professionals at times when distance is a critical factor, using

information and communication technologies in diagnosis, treatment, prevention of diseases and accidents, research, assessment, health education and other areas for health promotion" (Özyürek Ucael et al., 2021). By the American Telemedicine Association, telemedicine is defined as the use of medical information exchanged from one place to another through electronic communication to improve a patient's health status (Voran, 2015). The basis of telemedicine is the use of telecommunication technologies and computer applications for the provision of medical care or services (Albarrak et al., 2021; Dilbaz et al., 2020).

In studies, it was concluded that there are positive perceptions of employees about telemedicine applications. In a study on the practice of telemedicine in South Africa, healthcare workers in rural areas perceived the telemedicine system as beneficial to improve the quality of the health services they provided (Cilliers & Flowerday, 2014). In various studies, the opinions of the employees on the effects of telemedicine application were examined. In a recent study by Piau et al. (2020), it was found that telemedicine offers positive results in diseases requiring long-term care in the management of neuropsychiatric symptoms and even increases the quality of care and that staff perceive telemedicine applications positively (Piau et al., 2020). Other similar studies on the subject point out that telemedicine in health care increases the quality and sustainability of health and healthcare (Brown et al., 2020; Kuek & Hakkennes, 2020; Muslu et al., 2019).

Telemedicine practices may differ at the hospital or national level. It is seen that telemedicine application contents are developing day by day in Turkey, and the number of applications is increasing. In Turkey, the Ministry of Health uses the Teleradiology System, which allows images to be reported, teleconsultation between radiologists and shared with patients via e-Nabız application (T.C. Sağlık Bakanlığı, 2022). During the pandemic, the Ministry of Health has ensured that people who are positive or in contact due to illness can access on-line health services and follow up with the "Dr.e-Nabız System" and "Hayat Eve Sığar" (HES) mobile applications (Özyürek Ucael et al., 2021). To establish the legal infrastructure, "Regulation on the Provision of Remote Health Services" was published to regulate the procedures and principles regarding the authorization of health facilities to provide telehealth services, the development and registration of the telehealth information system, and the supervision of health facilities within this scope (*Uzaktan Sağlık Hizmetlerinin Sunumu Hakkında Yönetmelik*, 2022).

Despite the great advances and advantages in the fields of information technology, telemedicine, telehealth and e-health in recent years, structural problems, existing infrastructure

inadequacies, the type of health need and the ease of use of technology adversely affect success. People also want to make sure their data is safe (Albarrak et al., 2021; WHO, 2019). The success of any new technology depends on the knowledge, skills and attitudes of experts. Therefore, it is important to ensure that professionals understand the concept of telemedicine and to assess how ready they are to accept and offer telemedicine services professionally (Albarrak et al., 2021). However, there are still many obstacles and challenges to the adoption of telemedicine by healthcare professionals. The most important of these is the competence of the employees. According to the WHO, in order for healthcare professionals to move to this new way of working, they need to have sufficient training to increase their motivation and the skills to use technology easily (WHO, 2019). These skills include a high level of digital literacy, which enables the effective use of new technologies in a clinical setting (Brown et al., 2020; MacLure & Stewart, 2018).

Digital literacy, defined as the ability to survive in the digital age (Üstündağ & Güneş, 2017), ability to adapt to new or emerging technologies (Ng, 2012). In other words, digital literacy is closely related to the ability of an employee to search for information using digital devices, to organize the information he/she has reached and to draw an inference from it (Brown et al., 2020). With increasing digitalization in the delivery of health services, it is seen that digital literacy levels are important (Kuek & Hakkennes, 2020).

The availability of technology in healthcare is closely related to its acceptability (MacLure & Stewart, 2018). Studies have determined that employees' information and digital literacy levels affect their attitudes towards health information and communication technology, and even low levels of digital literacy have been identified as one of the obstacles to the adoption of electronic recording systems (Ajami & BagheriTadi, 2013).

In this study, it is aimed to determine the levels of digital literacy, knowledge of telemedicine and perception of telemedicine, which have been increasing in importance in the recent period, and to reveal the relationships between them. In addition, the determination of whether the telemedicine experience creates a difference in the perception of telemedicine was determined as another research topic. The hypotheses of the study are as follows:

H1: There is a positive correlation between digital literacy and knowledge of telemedicine.

H2: There is a positive correlation between knowledge of telemedicine and perception of telemedicine.

H3: Knowledge of telemedicine mediates the relationship between digital literacy and the perception of telemedicine.

H4: There is a difference in the perception of telemedicine between those with and without telemedicine experience.

Theoretical model of the study is given in Figure 1.

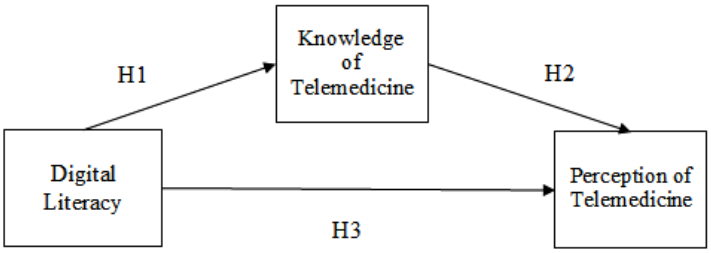

Figure 1. Theoretical Model

1. RESEARCH METHODOLOGY

Research Method: This study was maintained according to the relational screening model. These types of studies is suitable for determining the relationship between variables in a topic and for revealing the possible effects of independent variables on dependent variables (Büyüköztürk et al., 2016).

Sampling and Data Collection: The research data was collected on a voluntary basis on-line and face to face between 01.06.2022-01.10.2022. Before collecting the data, an explanation was made with the participants about the purpose of the research and how they would answer the questions. While collecting the data, the sample was not selected, the research was participated on a voluntary basis.

The research was carried out in three hospitals, one in tertiary care and two in secondary care. Within the scope of the study, the total number of health workers in the three hospitals is 710. A total of 334 health professionals participated in the study. Answer ratio is 53%. 204 of the participants were male (%61.1); 130 of the participants were female (%38.9). The mean age is 27.37 ($\bar{x}$ = 36.65±.57; 7,218, Minimum=18, Maximum=65). 33 (9.9%) of the healthcare workers are doctors; 192 (57.5%) of them are nurses; 109 (32.6%) of them are other healthcare workers. Of the participants, 68 (20.4%) work in the emergency department; 16 (4.8%) work in the operating room; 35 (10.5%) work in the internal units; 66 (19.8%) work in the surgical unit; 91

(27.2%) work in the intensive care unit; 58 (17.4%) work in other health units (sterilization, laboratory, radiology, physical therapy). While 76 (22.8%) of healthcare professionals have previous experience in telemedicine, 258 (77.2%) have no experience in telemedicine.

Data Collection Tools: The research data was collected through survey. While the first part of the survey contains questions about demographic and professional status, the second part includes items related to perception of telemedicine, knowledge of telemedicine and digital literacy. Items for measuring knowledge of telemedicine and perception were created by benefiting from research questions Albarrak vd. (2021). To measure digital literacy, the scale developed by Ng (2012) and translated into Turkish by Üstündağ & Güneş (2017) was used. All items in the measurement tools were asked in accordance with the 5-item Likert type with telemedicine information items ranging from "none" to "many", while perception of telemedicine and digital literacy items ranged from "I strongly disagree" to "I strongly agree". As scores from scales increase, digital literacy, positive perception of telemedicine and knowledge of telemedicine increase.

Data analysis: The structural validity of the substances used in the study was evaluated by confirmatory factor analysis, and then, the reliability was evaluated by calculating the Cronbach's alpha internal consistency coefficient. The relationships between the variables were also tested with the structural equation model. To determine the differences between the groups, two sample t-tests were used. Statistical procedures and research hypotheses were tested using Amos 23.0 and SPSS 23.0. In the research data, since the values of Kurtosis and Skewness were in the range of -1.5 to +1.5, it was interpreted that the distribution met the normality conditions (Tabachnick & Fidell, 2013).

Ethical Issues: The ethics committee approval required for the research was obtained on 20.05.2022 with the decision number 2022/55 of the Scientific Research and Publication Ethics Committee of the Rectorate of Hakkari University.

2. FINDINGS

2.1. Estimation of Measurement Model

In the first stage, the validity and reliability of the structures used in the research were evaluated. For this, all standardized loads in Standardized Regression Weights are determined first.

Accordingly, those with factor loads lower than 0.60 were removed (Chin et al., 1997). In this context, DL9 and DL10 items in the digital literacy scale were removed from the scale, and the analyzes were repeated. The calculated values for the measurement model are shown in Table 1 below.

Table 1 Validity and Reliability Analysis Results

Scale	Item	Unstd.	S.E.	C.R.	P	Std.	CR	AVE	Cronbach's Alpha
Digital Literacy	DL1	1.000				0.659	0.88	0.47	0.87
	DL2	1.031	0.089	11.519	***	0.740			
	DL3	1.025	0.089	11.569	***	0.744			
	DL4	1.030	0.091	11.297	***	0.722			
	DL5	1.029	0.096	10.678	***	0.675			
	DL6	0.882	0.087	10.138	***	0.635			
	DL7	0.939	0.087	10.800	***	0.684			
	DL8	0.947	0.097	9.779	***	0.609			
Knowledge of Telemedicine	KT1	1.000				0.797	0.92	0.75	0.91
	KT2	1.204	0.060	20.081	***	0.920			
	KT3	1.205	0.058	20.759	***	0.947			
	KT4	0.925	0.058	15.915	***	0.778			
Perception of Telemedicine	PT1	1.000				0.778	0.91	0.67	0.90
	PT2	0.897	0.070	12.847	***	0.675			
	PT3	1.083	0.059	18.379	***	0.906			
	PT4	1.055	0.060	17.728	***	0.879			
	PT5	1.052	0.063	16.790	***	0.842			

Cronbach's alpha, Composite Reliability (CR) and Average variance extracted (AVE) values were calculated to evaluate the reliability of the structures. The Cronbach's alpha coefficient scale was calculated as 0.87 for total digital literacy, as 0.90 for perception of telemedicine, and as 0.91 for knowledge of telemedicine. CR value was determined as 0.88 for digital literacy, as 0.91 for perception of telemedicine, and as 0.92 for knowledge of telemedicine. AVE values was calculated as 0.47 for digital literacy, as 0.67 for perception of telemedicine, and as 0.75 for knowledge of telemedicine. The calculated values were interpreted as reliable since Cronbach's alpha value is 0.70 (Hair et al., 2010) and the value of CR is 0.60 (Fornell & Larcker, 1981). On the other hand, it is recommended that the AVE value be 0.50 and above. Digital literacy is calculated below this value. However, although it is 0.50 and below, this value is considered acceptable if the CR value ≥ 0.70 (Fornell & Larcker, 1981). According to these results, all measurement items were accepted at an acceptable level.

2.2. Estimation of Structural Model

The relationships between the scales were examined to test the structural model put forward in the research. Before estimating the structural model, the results of Pearson Correlation analysis, the mean and standard deviation values of the measurements were calculated. The values in question are presented in Table 2.

Table 2. Results of Correlation Analysis

	Mean	St. Dev.	TA	TP	DO
Perception of Telemedicine (PT)	3.392	0.817	1		
Knowledge of Telemedicine (KT)	2.090	0.869	0.282*	1	
Digital Literacy (DL)	3.527	0.713	0.340*	0.237*	1

*p<.0.01.

When the correlation between the scales was examined, it was found that there were moderate and significant correlations between perception of telemedicine and digital literacy (r=0.340, p>0.01), between knowledge of telemedicine and perception of telemedicine (r=0.282, p>0.01) and between knowledge of telemedicine and digital literacy (r=0>0.01). Within the scope of the research, it was found that perception of telemedicine ($\bar{x}$= 3.392±0.817) and digital literacy level ($\bar{x}$= 3.527±0.713) were above average, while knowledge of telemedicine was below average ($\bar{x}$= 2.090±0.869). The significance of correlations between these variables has been interpreted in a way that the evaluation of structural analysis can also give appropriate results. As a result of the Structural Equation Model (SEM), the model fit indices were found to be χ2/df=2.618, GFI=0.903, AGFI=0.871, CFI=0.945 and RMSEA=0.070. All of the values conform to an acceptable model (Browne & Cudeck, 1992; Hu & Bentler, 1999; Schermelleh-Engel et al., 2003) and suggests that this model can be used to explain hypotheses.

Table 3. Results of Structural Equation Analysis of the Research Model

Structural Relationships			Unstd.	S.E.	C.R.	P	Std.	R^2
KT	<---	DL	0.262	0.070	3.747	***	0.230	0.053
PT	<---	KT	0.233	0.056	4.145	***	0.235	0.205
PT	<---	DL	0.380	0.071	5.371	***	0.337	

*p<.0.01.

Results belonging to the Structural model are given in Table 3. All pathways in the model were found to be statistically significant. According to these results, H1 and H2 hypotheses were accepted. Digital literacy was able to account for 0.053 of the variance of knowledge of

telemedicine, digital literacy and knowledge of telemedicine were able to account for 0.205 of the variance of perception of telemedicine.

The potential intermediary effect in this research model is examined for better explanation of the model and hypotheses. In this study, bootstrapping procedure was used to test the mediation effects. A total of 5000 boot samples were used to investigate statistical significance and estimates were obtained at 95% confidence interval.

Table 4. Mediation Impact Results

Bootstrapping (Bias-corrected 95% CI)					
Affects the vehicle	**Stand. End. Effect**	**Lower Limits**	**Upper Limits**	**P**	**SE**
PT <---KT<--- DL	0.054	0.200	0.456	0.006	0.019

*p<.0.05.

Table 4 shows the results of the intermediary effect. It was found to be statistically significant that perception of telemedicine affects digital literacy through knowledge of telemedicine (p>0.05), and the H3 hypothesis was accepted. Another hypothesis in the research was examined: "There is a difference between those with and without telemedicine experience in terms of perception and knowledge of telemedicine". Associated Two Sample t Tests were applied to examine this hypothesis. The analytical results are presented below.

Table 5. Two Sample T Test Results

	Telemedicine Experience	**N**	**Mean**	**St. Dev.**	**t**	**df**	**p**
PT	Available	76	3.789	0.591	4.979	332	0.00
	None	258	3.276	0.839			

*p<.0.05.

According to the results of the analysis in Table 5, the perception of telemedicine varies significantly according to whether the participant has telemedicine experience or not ($t_{(332)} = 4.979$, p<0.05). The significant difference is in favor of those who have experienced telemedicine. In other words, the perception of telemedicine of those with telemedicine experience increases positively.

3. DISCUSSION AND CONCLUSION

This research was conducted to determine the levels of perception of telemedicine and knowledge and digital literacy, and to reveal the correlations between them. It was also investigated whether the telemedicine experience caused a difference in the perception and

knowledge of telemedicine. In the first stage, the descriptive statistics reached in the study were discussed without examining the results of the analysis of the research hypotheses. Accordingly, the perceptions of health workers in the telemedicine committee were found to be relatively higher than the average ($\bar{x}$=3.392). This descriptive statistical value indicates that the participants have a more positive view of telemedicine applications. Previous research has also identified a high perception for telemedicine (Albarrak et al., 2021). It can be interpreted that the value calculated in this research is partially parallel to the previous research findings. On the other hand, it was also found that the average level of knowledge of the participants in telemedicine was relatively low in this study ($\bar{x}$=2.090). If this situation is interpreted by blending it with the previous finding, it can be interpreted that although the level of knowledge of health professionals about telemedicine is relatively low, they have a positive perception of the subject. This situation reveals the importance of providing appropriate training to healthcare workers before telemedicine applications are used. The digital literacy status of healthcare workers was also calculated to be relatively above the average ($\bar{x}$=3.527). In a study conducted on nursing students, it was similarly determined that they had a high level of digital literacy competence in daily environments. However, it was found that their ability to translate this skill into their professional practice was limited and their access to and use digital tools in the workplace was limited (Brown et al., 2020). In some studies, it was found that digital literacy was low and that these skills needed to be developed (De la Hoz et al., 2021; MacLure & Stewart, 2018).

Within the scope of the research, it was determined that there is a positive correlation between digital literacy and knowledge of telemedicine. The correlation in question is theoretically an expected result. According to Brown et al. (2020), the competence to use digital technology makes important contributions to accessing and acquiring information in the present digital age (Brown et al., 2020).

According to the results of SEM, hypotheses were accepted, and a positive relationship was found between knowledge of telemedicine and perception of telemedicine. Previous studies have also revealed that education affects the perceived ease of use of the telemedicine system (Cilliers & Flowerday, 2014). Another result of the research is that knowledge of telemedicine has a mediating effect on the relationship between digital literacy and perception of telemedicine. This finding indicates that the high level of digital literacy provides an important readiness for the use

of telemedicine, which leads to a positive perception of the use of telemedicine. This finding is in line with the research results in the field literature (Ajami & BagheriTadi, 2013).

Another result obtained in the research is that having telemedicine experience causes a difference in the perception of telemedicine. Positive perception increases with experience. Considering that telemedicine applications are used more and more every day, this finding can be interpreted as accelerating the positive change of perceptions about telemedicine applications by health professionals.

There are a number of limitations in this research. One of the most important limitations of the study is that the perception of telemedicine and the level of knowledge of telemedicine of the participants were measured at a general level. The data collected is not specifically intended for a telemedicine application. In practice, the level of knowledge about the telemedicine practices used in different services and the level of perception of telemedicine may differ. To prevent this limitation, research hypotheses and measurement tools were prepared to measure general perception of telemedicine and knowledge of telemedicine. The difference in the level of knowledge and perception of health workers, especially towards a telemedicine application, can be examined in depth in another study. Another limitation of the study is that the study was conducted cross-sectionally and that non-probability sampling was used in the selection of participants. In other words, further research in an experimental design is needed for researchers interested in the subject to make an examination in the context of cause and effect between variables.

In this study, data was collected from three different institutions providing services at the second and third levels. This is an obstacle to the generalizability of research results for primary health care workers. Telemedicine applications used in first, secondary and tertiary health care institutions and the information and perceptions related to them may differ slightly. This is another limitation of the research. In another future study, the results can be compared by collecting data from health professionals in primary health care institutions.

Consequently, the high level of digital literacy has a positive effect on the level of telemedicine information acquisition and the perception of telemedicine. At the same time, knowledge of telemedicine also provides a positive effect on the perception of telemedicine. Accordingly, it is considered to be useful to include practical trainings in in-house training programs in order to increase the level of knowledge of telemedicine and digital literacy of

healthcare workers. At the same time, it may be recommended that these trainings be included in the training curricula of healthcare workers during their education periods.

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The Impact Of Covid-19 And The Way Ahead For Kerala In Medical Value Tourism

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Abstract

Medical tourism is a rapidly expanding industry with a market value of more than USD 4.0 billion. Covid-19 had a negative impact on the tourism industry, particularly medical tourism. With the economy returning to normal, the sector is reviving at an even faster rate. India is in a unique position because of its diverse culture, demography, and traditional techniques. India has carved out a prominent position in low-cost medical tourism, catering to patients who cannot afford to wait in long lines for state-of-the-art medical care. medical care. India has carved out a prominent position in low-cost medical tourism, catering to patients who cannot afford to wait in long lines for state-of-the-art medical care. The quantum of human resources, technological

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development, and active government intervention, create colossal possibilities to harness this sector. Kerala among other states uses a unique combination of modern and traditional medicine. Foreign-trained medical staff and numerous leisure spots help the state carve out a niche in this highly competitive segment. This paper discusses the boost that medical value tourism could grant Kerala and why this sector could be a significant revenue generator. Based on published data, the study discusses factors that make Kerala a hub for medical tourism, and trends and inflow of medical tourists. The number of tourists arriving for medical reasons accounted for 182,945 of the total number of foreign tourist arrivals. Despite a 75-80% drop in Foreign Tourist Arrivals during the first two years of the pandemic (2019-2021), Kerala hospitals are making a comeback. Kerala's path to recovery is being paved with new marketing strategies and innovation to attract more tourists. The article also discusses the concept and potential of Tourism 4.0, specifically AI-powered telemedicine. The article's conclusion demonstrates the impressive rate at which the sector is making a comeback and its positive impact on developing economies.

Keywords: Medical Value Tourism, Covid-19 Pandemic, Foreign Patient Arrivals, Telemedicine, Tourism 4.0, Telehealth.

INTRODUCTION

Medical Value Tourism is among one of the fastest-growing sectors of the Indian economy. Known as a medical tourism hub or destination, the country stood tall throughout the pandemic. The land is home to some of the top specialists in the fields of modern medicine, ayurveda, homeopathy, Unani, and so on, with an infusion of traditional and modern medicine. The presence of diverse cultures, demographics, and related travel and tourism destinations only adds to the factors that benefit the industry. With increased awareness and demand for health and well-being, the sector is expected to grow at a rapid pace. Medical tourism is a nice segment of tourism that combines the nation's medical facilities with the beauty of its tourist destinations. Because of affordability, expert care, and travel attractiveness, India's medical value tourism sector is recognized globally. In the face of Covid-19, and the slump of the sector, it was brought to light the paramount importance of this area. With restrictions now slowly being lifted, the sector is trying to make a comeback.

The pretext of the pandemic has pushed the country to embrace technology and artificial intelligence to compete in the global market. With most patients fearful of leaving their homes for fear of infection and governments around the world encouraging social distancing,

telemedicine was seen in a new light and as a potentially lucrative new market. Telemedicine and telehealth have enormous potential in the medical sector, particularly in medical value tourism. Telemedicine is defined by The World Health Organization (WHO) as, "The delivery of healthcare services, where distance is a critical factor, by all healthcare professionals using information and communication technologies for the exchange of valid information for diagnosis, treatment, and prevention of disease and injuries, research and evaluation and for the continuing education of healthcare providers, all in the interests of advancing the health of individuals and their communities", and telehealth is the use of electronic information and telecommunications technologies to support long-distance clinical healthcare, patient and professional health-related education and training, public health and health administration (Dasgupta & Deb, 2008). This empirical study illustrates the trends and patterns in Kerala's medical value tourism sector using secondary data from IBEF, RBI, MoT, and GoI. To understand the current trend of medical value tourism in Kerala, the effects of COVID-19, and the implications of telemedicine on MVT, data from a variety of publications is consulted.

People's innate desire to travel has enhanced Kerala's reputation as a medical tourism destination, and India as a whole has benefited from this. The government's allocation of Rs: 2970 crores to the Ministry of Ayush in the union budget 2021–22, up from only Rs: 1069 crores in 2014–15, demonstrates the growth of this niche industry as a significant source of revenue. Therefore, it is essential to assess the flow of medical tourists and keep an eye on the pandemic's effects. The adoption of tourism 4.0, particularly through telemedicine, is the context in which the future of MVT is discussed in this paper.

This research can act as a starting point for further studies on the effects of medical value tourism on the country's economy and other sectors. New insights can be obtained from research on the growing potential of telemedicine or telehealth as a digital supplement to tourism 4.0. The study aims to investigate the impact of pandemics on the medical value tourism market in India, the growing medical tourism sector in Kerala, and how tourism 4.0, particularly telemedicine, is influencing medical value tourism.

Literature Review

Kerala's strengths in Ayurveda and modern medicine, combined with marketing strategies and skilled professionals, have aided in the growth and recognition of the sector. Kerala's strengths

in Ayurveda and modern medicine, combined with marketing strategies and skilled professionals, have contributed to the MVT's growth and recognition. The government had little or no involvement in the development of this promising industry. The public-private partnership is a growing model of medical value tourism in Kerala (Joseph, S., 2012). The current state of medical tourism in India demonstrates the numerous advantages and factors that draw tourists to the country. Being an emerging economy, its focus on technological and infrastructural development is driven by the need to draw in foreign tourists. Other factors contributing to this growth include limited or nonexistent health insurance coverage abroad, a lack of technological advancement, challenges associated with travel, and lengthy wait times (Geetha & Karthika, 2015).

Peng, J., Yang, X., Fu, S., & Huan, T. C. T. (2023) explore the influencing mechanism of tourists' happiness on revisiting intention for traditional Chinese medicine (TCM) cultural tourism destinations based on three dimensions of tourists' happiness: positive emotions, engagement, and meaning. Contentment among tourists fosters special travel moments and a connection to the destination, both of which foster the desire to go back. the study finds that health consciousness significantly moderates the relationship between happiness, place attachment, and revisit intention.

According to research by Mason, A., Spencer, E., Barnett, K., & Bouchie, J. (2023), 22% of MTP websites included CSR content. The MTPs and the CSR had a very high degree of congruence, or "fit." Additionally, the average number of CSR engagements per MTP was three to six, indicating a dedication to the communities and stakeholders that benefit from CSR as well as the practice itself.

Heinz, Eidmann, Jakuscheit, Laux, Rudert, & Stratos (2023) looked into how the COVID-19 pandemic outbreak of 2020 affected Germany's medical tourism sector. Six codes associated with elective orthopedic surgery—bone biopsy, knee arthroplasty, foot surgery, osteotomy, hardware removal, and arthrodesis—were identified and analyzed in the study as crucial service indicators for medical tourism. Males made up the bulk of medical visitors, and they were generally younger than the nation's citizens.

Thelen, S. T., and Yoo, B. (2023) look into the effects that cosmopolitanism, insurance satisfaction, and affective/cognitive country image have on a patient's willingness to travel abroad for surgery. Patients can choose between receiving free knee replacement surgery at a

hospital with JCI certification in Mexico, India, or Israel, or receiving the procedure in the United States, where they would be responsible for all co-pays and deductibles. This study suggests that cosmopolitanism affects patients' views of medical tourism and that affective and cognitive country images have varying degrees of significance.

Abdul-Rahman, M. N., Hassan, T. H., Abdou, A. H., Abdelmoaty, M. A., Saleh, M. I., & Salem, A. E. (2023) assess the impact of clinical trust and well-being on patients' intentions to return to a destination using an online survey on a sample of patients who visited three medical tourism establishments in Egypt. Within the proposed framework, they also looked into a potential mediation relationship between three institutional variables: the availability of reasonable prices, the quality of the services, and the infrastructure. The study's conclusions showed that aspects of participants' intentions to return, apart from service quality, were significantly predicted by low costs, medical tourism infrastructure, clinical trust, and general well-being. participants' well-being acted as a full mediator in the relationship between service quality and intentions to return, whereas clinical trust and well-being played a partial role in the relationship between psychological intentions and affordable expenses.

Telehealth and telemedicine may improve medical travel behavior because they assist patients in determining whether they are ill and require treatment quickly, making them more likely to seek treatment from their doctor sooner than when traditional medical practices are followed. Communication and information quality are critical components of medical value tourism. As a result, according to the study, client satisfaction with telemedicine and telehealth services is a major factor that can induce the client to forego medical travel to the destination (Gu, D., et al, 2021). Rapid medical tourism advancement implies rapid globalization. Internet access has enabled potential patients all over the world to search for and contact the best medical care. Telemedicine and telehealth are creating portals to ensure that the medical tourism process runs more smoothly (Hong, Y. A, 2016).

The onset of the pandemic has had a significant impact on the country, and when analyzed in the context of Tourism 4.0, a gap is evident. The impact of telemedicine services in the country is being studied in order to determine how far Tourism 4.0 can go to improve the sector. These are the research gaps that are being addressed in this paper. The travel and tourism industry in India has a large market. With centuries of tradition and modernity intertwined, India has much to offer in terms of niche tourism products such as adventure, medical, MICE, eco-

tourism, and others, in addition to other mainstream tourism products. India is well-known around the world for spiritual tourism, wellness, and rejuvenation. The tourism industry is an important component of the country's 'Make in India' initiative. The sector's significant multiplier effect on revenue generation and employment is difficult to overlook. The study seeks to understand the impact of India's tourism industry on revenue generation, job creation, and foreign exchange earnings.

Why This Study is Important

Medical tourism is a subset of tourism that combines the medical facilities of a country with the natural beauty of its tourist destination. India's medical value tourism sector is well-known around the world for its affordability, expert care, and travel appeal. In light of COVID-19 and the industry's decline, the area's crucial importance was emphasized. This study is significant because medical value-tourism in India is growing as a result of the country's affordable healthcare, top-notch healthcare infrastructure, qualified medical personnel, a wide range of medical services, holistic approach to healthcare, travel opportunities, reduced wait times, fluency in multiple languages, and government support. When taken as a whole, these elements establish India as a top choice for people looking for overseas medical care.

It is vital to comprehend the pattern of patient flow into the nation over time to evaluate the effects of COVID-19 and the Tourism 4.0 project's future growth. Additionally, as part of Tourism 4.0, this study aims to comprehend India's current standing in telemedicine and telehealth.

Significance of the Study

The rise of the Internet age resulted in significant advances in the practice of medicine. The inherent desire of people to travel has boosted India's image as a medical tourism hub, with Kerala attracting a sizable proportion of visitors. The rise of this niche sector as a major revenue generator can be seen in the government's allocation of Rs: 2970 crores to the Ministry of Ayush in the union budget 2021-22, up from only Rs: 1069 crores in 2014-15. As a result, it is necessary to analyze the flow of medical tourists and monitor the impact of the pandemic. In this paper, the future is discussed in the context of the adoption of tourism 4.0, specifically through telemedicine. According to the World Travel and Tourism Council, India ranks seventh in terms of travel and tourism contribution to GDP and 54th in the World Economic Forum Travel and Tourism Index for 2021. While India is already one of the top medical tourism destinations, there

is still plenty of room for growth. The pandemic slowed the industry, but as borders reopen to tourists with a new and improved awareness of health and cautious living, the potentials of medical value tourism are numerous. As the world saw India fight the pandemic on an impressive scale by implementing telehealth services for better reach, faith in the nation as a medical hub has only advanced. This study can provide groundwork for further research as to how medical value tourism can affect other industries in the country, as it does the economy. Studies regarding the growing potential of telemedicine or telehealth as a digital enhancer of tourism 4.0 can provide new knowledge.

Objectives of the Study

1. To investigate the pandemic situational trend in India's medical value tourism industry.
2. To investigate the growing trend of medical tourism in Kerala.
3. To investigate the impact of tourism 4.0, particularly telemedicine, on medical value tourism.

1. RESEARCH METHODOLOGY

This is an empirical study that uses secondary data to highlight the trend and pattern of the medical value tourism industry in Kerala. Data from various publications is used to comprehend the current trend of medical value tourism in Kerala, as well as the impact of COVID-19 and the implications of telemedicine on MVT.

2. FINDINGS AND DISCUSSION

The travel and tourism industry in India has a large market. With centuries of tradition and modernity intertwined, India has much to offer in terms of niche tourism products such as adventure, medical, MICE, eco-tourism, and others, in addition to other mainstream tourism products. India is well-known internationally for spiritual tourism, wellness, and rejuvenation. The tourism industry is a cornerstone of the country's 'Make in India' initiative. The sector's significant multiplier effect on revenue generation and employment is difficult to overlook. Based on secondary data, the analysis is based on three factors: revenue generation, job creation, and foreign exchange earnings.

Revenue Generation

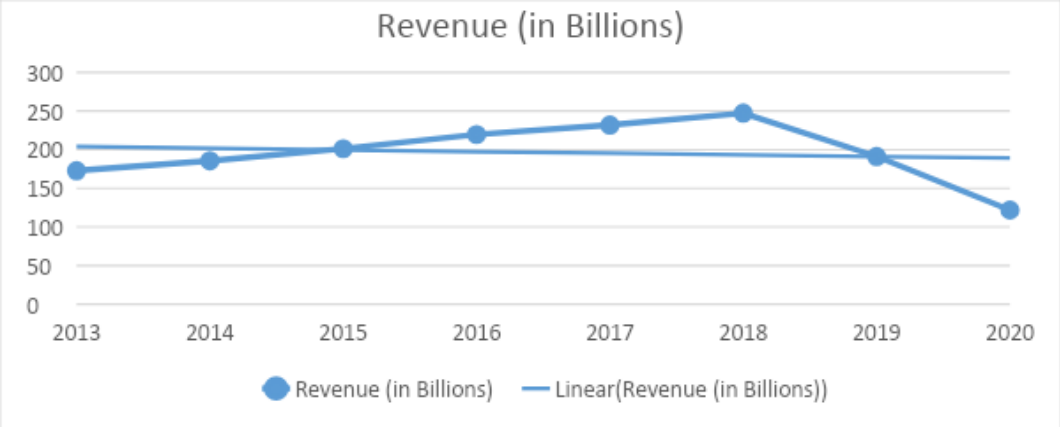
Table 1: Revenue generated from tourism businesses in India from 2013 to 2020

Year	Revenue (in Billions)
2013	172.91
2014	185.63
2015	201.43
2016	219.72
2017	232.01
2018	247.37
2019	191.3
2020	121.9

(Source: http://www.ibef.org)

Revenue Generation

Figure 1: Revenue generated from tourism business in India from 2013 to 2020



(Source: Based on data from IBEF)

The table and chart show the increasing rate at which the tourism industry catered to revenue generation before the pandemic. Tourism was a promising industry before the pandemic. The most expensive was 247.37 billion USD in 2018. The pandemic had a significant economic impact the following year, and closing borders had a cost. By 2020, revenue had fallen to 191.3 billion USD, then to 121.9 billion USD. The industry's contribution to GDP is expected to reach 512 billion USD by 2028, representing a 10.35% annual growth rate.

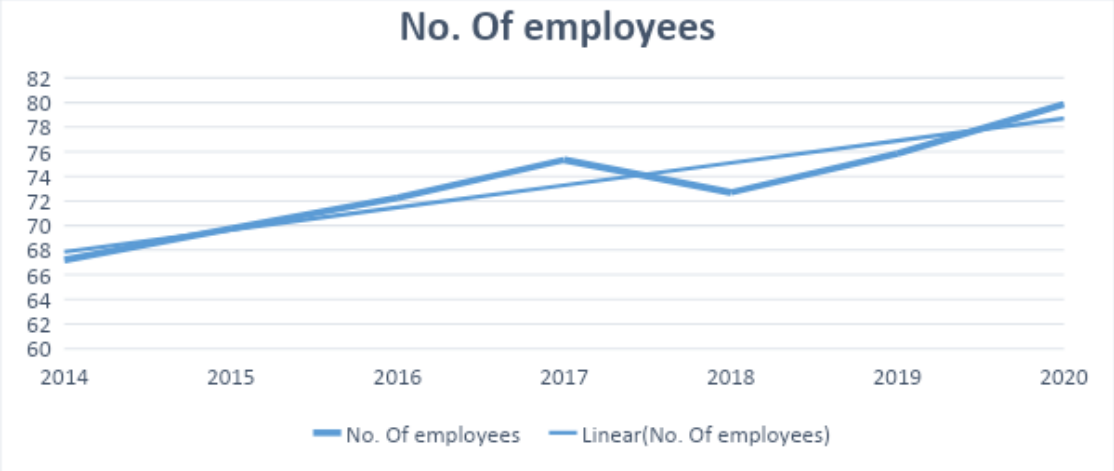
Job Creation

Table 2: Number of direct and indirect jobs created in the travel and tourism sector across India from financial year 2014 to 2020

Year	No. Of employees (in millions)
2014	67.2
2015	69.75
2016	72.26
2017	75.34
2018	72.69
2019	75.85
2020	79.86

(Source: http://www.statista.com)

Figure 2: Number of direct and indirect jobs in the travel and tourism sector across India from financial year 2014 to 2020 (in millions)



(Source: based on data from Statista)

The above table and chart contradict the coronavirus's incapacitating effects. As can be seen, the number of jobs directly or indirectly related to travel and tourism has been steadily increasing in 2020. The tourism industry employs over 39 million people, accounting for roughly 8% of all jobs in the country. According to reports, India is expected to create 53 million jobs by 2029.

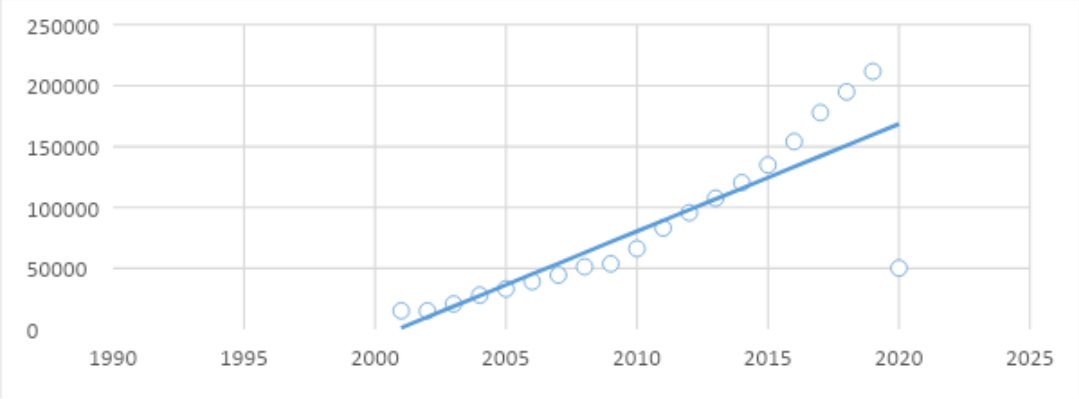
Foreign Exchange Earnings

Table 3: Estimates of Foreign Exchange Earnings (FEEs) in Rs. Crore from Tourism Industry

Year	FEE from Tourism in India (cr)	Percentage(%) change
2001	15083	-3.5
2002	15064	-0.1
2003	20729	37.6
2004	27944	34.8
2005	33123	18.5
2006	39025	17.8
2007	44362	13.7
2008	51294	15.6
2009	53754	4.8
2010	66172	23.1
2011	83036	25.5
2012	95607	15.1
2013	107563	12.5
2014	120367	11.9
2015	134844	12.0
2016	154146	14.3
2017	177874	15.4
2018	194881	9.6
2019	211661	8.6
2020	50136	-76.3

(Source: Reserve Bank of India, for 2000 -2015, Ministry of Tourism, Govt. of India)

Figure- 3: Estimates of Foreign Exchange Earnings (FEEs) in Rs. Crore from Tourism



(Source: Reserve Bank of India, for 2000 -2015, Ministry of Tourism, Govt. of India, for 2016-2020)

The trend of foreign exchange flow into the country from tourism has increased over the years. With the onset of COVID-19 and a decrease in tourist arrivals, there is also a decrease in foreign exchange earnings, as seen in 2020. The lifting of restrictions and the resumption of normal tourism would pave the way for a revival in foreign exchange flow into the country.

MEDICAL VALUE TOURISM PERSPECTIVE IN KERALA

Indian demography, culture, and traditions--whether in lifestyle or medicine--all provide a strategic advantage that has helped attract tourists from all over the world. Medical tourism has been a major focus in the niche tourism sector, and Kerala is well-equipped to capitalize on this segment. The term "medical tourism" is associated with high potential and opportunity among those involved in the government, practitioners, media, and facilitators. According to BBC World News (2013), Kerala is now a global brand and destination with the highest brand recall (Ramesh & Joseph, 2011) and one of the most popular tourist destinations.

Table 4: Purpose wise Foreign Tourist Arrivals during 2020

Purpose	FTA	Percentage share
Leisure holiday and recreation	1597753	58.2
Indian diaspora	381460	13.9
Business and Professional	320582	11.7
Others	262026	9.5
Medical	182945	6.7
Total	2744766	100

(Source: Indian tourism statistics at a Glance 2021)

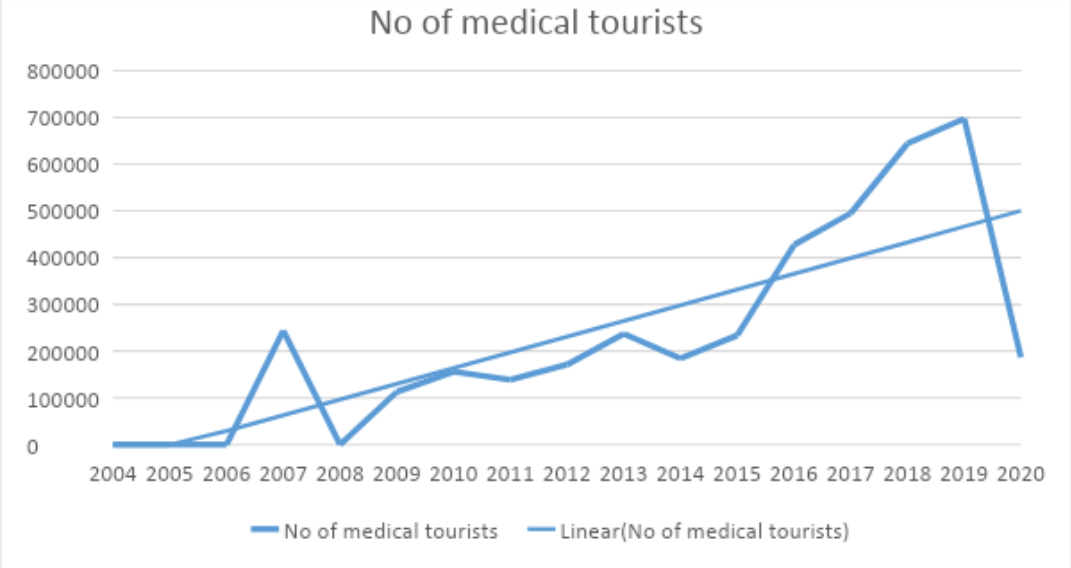
The Department of Tourism reports that foreign visitors primarily came to the country for vacation, leisure, and recreation. The Indian diaspora, business, medicine, and other fields come next. Six percent (182,945) of all FTAs were made up of tourists traveling for medical reasons. There has been an increase in the number of visitors receiving various medical treatments in India. Cost-advantages, experience, technology, cultural sensitivity, quick wait times, and the availability of amenities that are otherwise unavailable in their home countries are the main causes. India continues to be one of the chosen destinations for medical treatment. There has been a decline in foreign visitors coming for medical treatment as a result of the pandemic. With improved infrastructure, more accredited hospitals, and the introduction of e-medical and e-medical attendant visas, the government hopes to attract more tourists.

Table 5: Number of Foreign Tourists Arriving in India for Medical Tourism

Year	No medical tourists	Percentage increase
2004	1,00,000	-
2005	1,50,000	50
2006	-	-
2007	243397	-
2008	-	-
2009	112689	-
2010	155944	38.38
2011	138803	-10.99
2012	171021	23.21
2013	236898	38.51
2014	184298	-22.20
2015	233918	26.92
2016	427014	82.54
2017	495056	15.93
2018	644036	30.09
2019	697453	7.65
2020	186644	-73.24

(Source: Bureau of Immigration)

Figure 4: Number of Foreign Tourist Arrived in India for Medical Tourism



(Source: based on Bureau of Immigration)

A SUCCESS KERALA MODEL OF MEDICAL VALUE TOURISM

Kerala was among the first states to offer medical tourism. Age old tradition of Ayurveda has been a strong driver for medical tourism in the state. Specifically for Kerala, the medical tourism

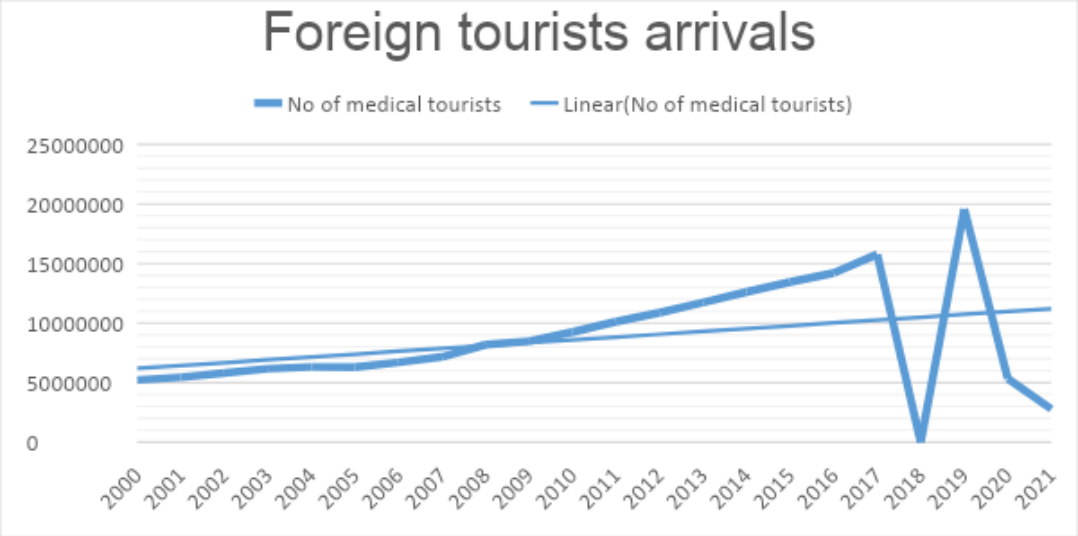
sector is an area of unbound potential. Besides Ayurveda, the state is also abundant in modern medicine and technically advanced hospitals, quality professionals, tourist attractions, and low-cost advantages. Besides Ayurveda, an influx of patients are opting for heart surgery, knee replacement, spine and brain surgery, bone-marrow transplant, and dental and eye care.

Table 6: Number of Foreign Tourist Arrivals in Kerala

Year	Foreign Tourist	Percentage increase
2000	5223154	2.61
2001	5448522	4.31
2002	5800820	6.47
2003	6165849	6.29
2004	6317728	2.46
2005	6292872	-0.39
2006	6700258	6.47
2007	7158749	6.84
2008	8190179	14.41
2009	8470795	3.43
2010	9254340	9.25
2011	10114441	9.29
2012	10870550	7.48
2013	11715954	7.78
2014	12618777	7.71
2015	13443050	6.53
2016	14210954	5.71
2017	15765390	10.94
2018	-	-
2019	19574004	-
2020	5329727	-72.77
2021	2776607	-47.9

(Source: Department of Tourism, Government of Kerala)

Figure 5: Number of Foreign Tourist Arrivals in Kerala



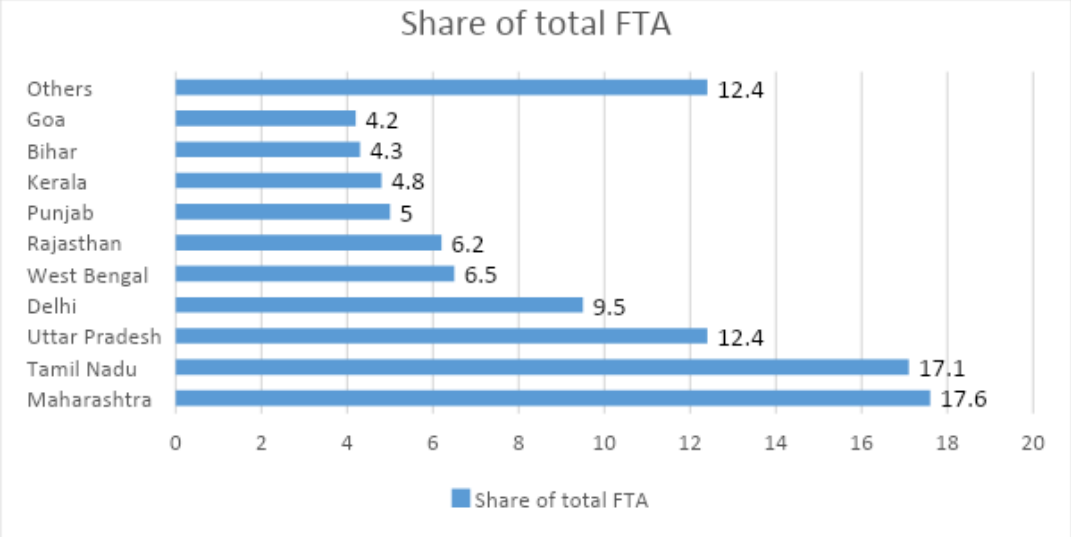
(Source: based on Department of Tourism, Government of Kerala)

The table and figure portray a rather reviving tourist economy in the state. 2020 saw a dip of 72.77% in overall tourist arrivals to the state. This has not shown a positive rise but at any rate, the fall is reduced in 2021 as can be observed from the graph. The trend line shows a positive slope which means the overall number shows gradual growth over the years. There is a lack of ready availability of data regarding the number of' medicall tourists to the state, which may be attributed to the fact that most tourists tend to travel on tourist visas rather than medical visas to avoid the hassle. Generalizing the total foreign tourists to the state, an assumption was made that part of it was for medical reasons, we can say that 2021 saw a comparatively lower dip in the number, which could mean a faster revival for the medical tourism sector in the country.

Despite a fall of 75 - 80% in FTA during the first two years of the pandemic, hospitals in the state are now making a comeback. For Kerala, the path of recovery is being made possible with changed marketing strategies and innovation to bring in more tourists. Hospitals in the district of Ernakulam are making strong strides, followed by Thiruvananthapuram. Kerala has over 33 NABH-accredited hospitals, which is the highest in the country. Ayurveda is a game changer for the state. Strategically located, with state-of-the-art technology and equipped specialty and multi-specialty hospital, Kerala has grounds to be a hotspot of medical tourism. Despite this, Kerala

only has 4.8% of the total FTA share of the country. The most favored state was Maharashtra holding a share of 17.6%, closely followed by Tamil Nadu with 17.1% and Uttar Pradesh with a 12.4% share of the total FTAs in the country. A lack of visibility and marketing campaigns about the availability of medical facilities can be accounted as one of the drawbacks of Kerala

Figure 6: Share of FTA in India in 2021 by leading state



(Source: based on Statista)

This necessitates the need for better strategies and initiatives to improve the game. Initiatives such as the introduction of medical visas and medical attendant visas and increased publicity at international platforms The campaign 'Heal in India' was conceptualized to take India's value proposition of holistic health to the entire world. Enhancing insurance coverage, special zones dedicated to medical and wellness tourism, and a user-friendly online MVT portal are a few steps that could make changes in the sector. The advent of technology needs to be explored. To ensure the continued survival and growth of the sector, and as the world dives into Industry 4.0, tourism takes a step into Tourism 4.0.

3. CONCLUSION

The study shows that the tourism sector was steadily expanding, generating jobs in the industry, bringing in much-needed foreign exchange, and adding to the GDP overall. With the start of the COVID-19 pandemic, the sector as a whole suffered enormous losses, which had a cascading effect on many other related aspects of the country and slowed down the sector's steady rise.

Kerala only has 4.8% of the total FTA share of the country. The most favored state was Maharashtra holding a share of 17.6%, closely followed by Tamil Nadu with 17.1% and Uttar Pradesh with a 12.4% share of the total FTAs in the country. A lack of visibility and marketing campaigns about the availability of medical facilities can be accounted as one of the drawbacks of Kerala.

Prior to the pandemic, tourism was a lucrative sector. The following year saw a major economic impact from the pandemic, and border closures came at a price. Revenue dropped to 191.3 billion USD by 2020 and then to 121.9 billion USD. By 2028, the industry is predicted to contribute 512 billion USD to the GDP, indicating an annual growth rate of 10.35%. In 2020, the number of jobs in travel and tourism, whether directly or indirectly, has been rising steadily. Over 39 million people are employed in the tourism sector, which makes up 8% of all jobs in the nation. By 2029, 53 million jobs are predicted to be created in India, according to reports. The emergence of the Internet era has resulted in notable progress in the field of medicine. As demonstrated in 2020, there is a decline in foreign exchange earnings along with the onset of COVID-19 and a decline in tourist arrivals.

As a result, monitoring the flow of medical tourists and the pandemic's effects are crucial. In this paper, the future is discussed within the framework of the adoption of tourism 4.0, specifically through telemedicine. Further research on the impact of medical value tourism on the nation's economy and other sectors can build upon the findings of this study. Research on the expanding possibilities of telemedicine or telehealth as a digital addition to tourism 4.0 can yield new insights. The study aims to explore the ways in which Kerala's medical tourism industry is expanding, the effects of pandemics on the medical value tourism market in India, and the ways in which tourism 4.0—particularly telemedicine—is influencing medical value tourism. We are witnessing a surge in tourists, many of whom are even more cognizant of the need for wellness and medical products and remedies now that the virus is mainly under control and travel restrictions are being lifted. Kerala, India, stands to benefit greatly from the world's trend toward the east thanks to its affordable cost of living, wealth of tourist attractions, and first-rate healthcare system. The pandemic and the increased emphasis on MVT have only served to change the global conversation about healthy living. Therefore, it is anticipated that demand for high-quality medical services will increase as more people look for the best medical care

possible. With the arrival of Tourism 4.0, also known as the digital era, Kerala's medical sector witnessed an explosion in AI-powered digital tools that enabled cross-sector collaboration between public and private entities. In the future, there will be a lot of opportunities for healthcare delivery in India, thanks to digital technology and artificial intelligence.

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The Online Food Delivery Services Sector Transformation in The Pandemic Scene

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Abstract

Aim: The present study aims to determine these factors that influence a consumer's OFD purchase decision.
Methods: The data of the online research conducted on 419 people were analyzed using SEM.
Results: According to the results of the study; the comfort zone and information factor have positive effect on the consumer's purchasing decision with the Covid-19 Pandemic. A negative relation was found between healthy menus and OFD services decision contrary to expectations.
Conclusion: Contrary to previous literature support, the positive relationship assumptions

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between hygiene of OFD service & contactless delivery and purchasing decision of OFD services could not be supported statistically.

Keywords: Online food delivery (OFD), comfort zone, Covid 19, healthy menu, contactless delivery, information, Hygiene of OFD service

INTRODUCTION

With the development of technology, online food delivery (OFD) services have also started to gain a place in the online environment. OFD services where consumers meet restaurants online; It is defined as internet-based platforms with contactless payment options, where businesses can review their menus and order food (Alalwan, 2020; Amin, Arefin, Alam, Ahammadd, & Hoque, 2021; Okumuş & Bilgihan, 2014; Wang et al., 2019). Prior to the Covid-19 pandemic, although people's expectation was on time delivery, online discounts and offers, and price savings (Deepika and Arun, 2021), it is observed that prioritization is returning to hygiene and social distancing norms. By looking at these behavioral changes, it is predicted that the factors affecting the purchasing decision in OFD have also changed with the pandemic (Tan et al 2021). In addition, consumers trying to avoid the risk of the Covid-19 Pandemic have turned to door-to-door delivery, takeaway and online ordering, even if they have never ordered online (Hall, Prayag, Fieger, & Dyason, 2020).

With the pandemic, identifying the factors that affect the consumer's OFD purchasing decision will allow both to allocate a sustainable relationship with existing consumers and to acquire new customers. The present study aims to determine these factors that influence a consumer's OFD purchase decision. The structure of the paper is as follows. The second section discusses the theoretical model and hypotheses. The third section explains the research method and describes the data, and the fourth section evaluates the results. The final section presents the resulting implications and conclusion.

Theoretical Framework and Hypotheses

In the literature, different theories and models have been used to investigate the factors that affect consumers' service adoption, perceptions, intentions and purchasing decisions regarding OFD services. For this purpose, the studies conducted in the related literature in order to analyze the factors that affect the consumer's adoption of OFD service are mostly based on the Technology

Acceptance Model (TKM) (Alagöz and Hekimoğlu, 2012; Arı and Yılmaz, 2015; Dilek and Öztürk, 2021; Jun, Yoon, Lee et al. Lee, 2022; Tomaş, 2014; Tribhuvan, 2020). In the studies in the literature, not only the TAM model has been utilized, but also the Planned Behavior Theory (TBP) (Amin et al., 2021; Chen, Liang, Liao, and Kou, 2020; Deepika and Arun, 2021; Tran et al., 2020), Extended Planned Behavior Theory (Kılıçalp & Özdoğan, 2019; Prayesto, 2021), Unified Technology Acceptance and Use Theory (UTAUT) (Alalwan, 2020; Muangmee, Kot, Meekawkunchorn, Kassakorn & Khalid, 2021), Extended Integrated Technology Use and Behavior Model (UTAUT2) have been used. In addition, models developed based on the literature were also tested in the relevant literature (Armağan and Eskici, 2019; Brewer and Sebby, 2021; Chai and Yat, 2019; Hong, Choi, Choi and Joung, 2021; Kapoor and Vij, 2018; Zhao and Bacao, 2020).

In a study conducted in Jordan using a conceptual model based on the UTAUT model, they discovered that, together with the Covid-19 Pandemic, online reviews and ratings, performance expectation, hedonic motivation, and price had an impact on consumers' intention to use OFD services and intention to use it consistently (Alalwan, 2020). In another study within the framework of the UTAUT model, it was found that performance expectation, effort expectation, social impact, time saving, task-technology compatibility, perceived trust and perceived safety factors affect the consumer's intention to use OFD services during the Covid-19 Pandemic period (Muangmee et al., 2021). As a result of their study using an expanded UTAUT2 model enriched with the information quality factor in order to determine the factors affecting the intention of consumers to use OFD services continuously in Korea, they discovered that habit has the most effect on the intention to use the OFD service (Lee, et al., 2019). In addition, they concluded that habit has performance expectancy and social impact, respectively, but that the information does not have a direct effect on the intention to use it continuously.

While Yeo, Goh, and Rezaei (2017) supported the structural relationship between convenience, convenience motivation, hedonic motivation, price-saving orientation, time-saving orientation, consumer attitude, and behavioral intention to purchase; Cho, Bonn and Li (2018) discovered that the accuracy and timeliness of the information provided by the platform or restaurant is the most important factor in OFD, which they define as the reliability factor. At the same time, food variety, price and reliability are the factors affecting the attitudes of single-person households, while convenience and food variety come to the fore in multi-person households. On

the other hand Tomaş (2014) stated that the variety of products, the fact that the platform has comments and evaluations, and the fact that consumers facilitate access to restaurants around them are the reasons for consumers to use OFD platforms. Tran et al. (2020) carried out in Vietnam to analyze the effects of perceived food safety, hygiene of food delivery service and behavioral intention on attendance behavior, in addition to the assumption that subjective norms and social isolation have a positive effect on behavioral intention and continuation behavior on the basis of PDT with the Covid-19 Pandemic. Food delivery hygiene, perceived food safety had been found a positive effect on intention to use OFD. Chai and Yat (2019), on the other hand, concluded that time saving had the most effect on the intention to use the OFD services while the other factors were convenience and privacy-security factors, respectively.

Cai and Leung (2020) aimed to analyze how the interaction of fictional mindsets and message frames influences OFD purchase intention during the Covid-19 Pandemic era. They found that promotional-framed messages were more effective on consumers' purchase intentions when paired with a "how" fictional mindset in dense regions, in New York, where the Covid-19 Pandemic was intense, and California, where it was infrequently seen, whereas in mild pandemic regions, "why" was framed with a fictional mindset. They discovered that messages were more effective on consumers' purchase intentions.

According to Saad (2020), the success of OFD services is directly influenced by delivery time, service quality, pricing, and the state of the food when it is delivered. Researchers in several nations have given OFD a great deal of attention (e.g., Ali et al., 2021; Bates et al., 2020; Chen et al., 2020; Daim et al., 2013; Dsouza and Sharma, 2020; Lee et al., 2017; Li et al.; 2020; Mehrolia et al., 2020; Troise et al., 2020). According to literature on technology adoption, a person's attitude, perceived usefulness and ease of use, speed of the website, quick response times for online services, and the friendliness and caliber of the staff all play a role in whether or not they adopt technology for OFD services (Lee et al., 2017, Daim et al., 2013).

Previous studies have shown that convenience motivation and post-usage usefulness (Yeo et al. 2017 Brewer and Sebby, 2021), pleasure and trust (Jun, Yoon, Lee, & Lee, 2022), hedonic values and utilitarian (Chen et al., 2020), performance expectancy, optimism, habit, and mindfulness (Gunden et al., 2020), congruity with self-image and innovativeness (Ali et al., 2021), menu information and visualization (Akgün and Zerenler, 2021; Brewer and Sebby. 2021), lifestyle adaptation (Belanche, Flavian, and Rueda (2020), trust, convenience, and social impact (Chotigo

and Kodono, 2021; Zhao and Bacao, 2020) exert a positive effect on intention of using the OFD services.

The factors affecting the Thai consumers' decision to use OFD service after the Covid-19 Pandemic were identified as Age, purchase frequency, affective and instrumental attitudes, perceived advantages, perceived threat, and product participation were found to account for 58.5 percent of the variance in respondents' choice of OFDs during the COVID-19 outbreak, according to Mehrolia et al. (2020). Furthermore, Ali et al. (2021) and Mehrolia, Alagarsmy ve Solaikutty (2020) discovered a strong and unfavorable association between OFD service intents and feelings of fear and discomfort.

Comfort Zone

It is possible to define the comfort zone as all of the situations in which the individual feels safe and comfortable by identifying the problems that he may encounter and producing solutions for the related problems. With the Covid-19 Pandemic, consumers have created comfort areas where they feel at least at risk and lead a life away from the contagion of the epidemic with the least effort. In these comfort areas they have created, consumers can order online at any time they want (Deepika and Arun, 2021) by paying attention to the social distance rule (Hacıalioğlu and Sağlam, 2020). At the same time, they reduce the possibility of dissatisfaction with the products by reading consumer comments and scores (Kim, 2020). In this context, consumers can associate comfort zone factor with social distance, convenience and comments & ratings with the Covid-19 Pandemic in the online environment.

The social distance rule, which is one of the most important issues in the fight against the epidemic; It has also deeply affected the restaurant industry. Social distancing refers to actions that reduce the likelihood of transmission of COVID-19 by reducing physical interaction between individuals or groups. (WHO, 2020; Deepika and Arun, 2021). Due to the COVID-19 pandemic, social distance has also reshaped the daily lives and consumption practices of individuals (Amin et al., 2021).

With the Covid-19 Pandemic, it has been researched by the limited researches in the literature that while social distance is effective in the behavior of consumers, it also positively affects their intention to continue using OFD service (Amin et al., 2021, Deepika and Arun, 2021). In addition, it has been discovered by previous studies in the literature that consumers who choose to be online during the process where restaurants continue only as a take-out or take-out service,

after the bans are lifted, they turn to online in order to alleviate the virus by maintaining social distance (Deepika and Arun, 2021; Kirk and Rifkin, 2020; Sheth, 2020; Wang, et al., 2021).

The biggest advantage of using OFD services; It is the transformation of order taking / placing processes to become simple, free from misunderstandings for both consumers and businesses (Gavilan, Cejodo, Lores, & Navarro, 2021). At the same time, real-time connection to OFD platforms provides speed and flexibility to the user. Existing empirical studies have found that convenience is a strong factor in consumers' reasons for OFD services (Brewer and Sebby, 2021; Chai and Yat, 2019; Cho et al., 2018; Deepika and Arun, 2021). One of the features provided by OFD service platforms has given consumers the opportunity to create their own feedback with comments and ratings (Alalwan, 2020). Consumers who ordered food online through Yemeksepeti.com in 2020 made 9.5 million comments and 5.4 million points (Papuççiyan, 2020). Ha, Park and Park (2016) stated that as a result of their research with 294 participants, comments and ratings have a significant effect on consumers' preferences in choosing both online and offline restaurants. Considering the above-mentioned issues, the following hypothesis has been developed by associating the comfort zone with social distance, convenience and comments&points features in the online environment.

H1: With the Covid-19 Pandemic, the comfort zone positively affects the purchasing decision of OFD service.

Hygiene of OFD service

During the Covid-19 Pandemic process, couriers take precautions such as wearing masks and gloves, using disinfectants, disinfecting delivery bags and using contactless delivery while delivering orders (Amin et al., 2021; WHO, 2020). Amen et al. (2021) associates the term “hygiene of the OFD service” with the courier, defining it as the ability of the courier to keep himself and the food clean. In a similar way, Chandrasekhar, Gupta, and Nanda (2019) state that since the hygiene of the restaurant cannot be observed by the consumer in OFD, the courier's image of hygiene will be associated with the degree of hygiene of the restaurant. With the Covid-19 Pandemic, it is likely that the image of being hygienic that the couriers will display during the food delivery service will have a positive impact on their decision to use OFD service platforms. Therefore, the following hypothesis has been developed.

H2: With the Covid-19 Pandemic, the hygiene of the OFD service positively affects the purchasing decision of OFD.

Contactless Delivery

Various online applications have also brought certain updates to their services, based on the statements that individual contact should be reduced as much as possible in order to prevent the spread of the epidemic. One of these features has been the contactless delivery option. Consumers are encouraged to use contactless payment or online payment options to maintain social distance and minimize physical contact (Amin et al., 2021). At the same time Mehrolia et al. (2020) stated that the perceived risk at the process of OFD service negatively affects the probability of using this service. Zhao and Bacoo (2020) discovered that the contactless delivery option positively affects the consumer's intention to use OFD service. The following hypothesis has been developed in order to analyze the effect of the contactless delivery application, which has become a sought-after feature with the Covid-19 Pandemic, on the consumer's purchasing decision of OFD service.

H3: With the Covid-19 Pandemic, the availability of contactless delivery option positively affects the purchasing decision of OFD services.

Healthy Menus

Increasing health awareness with the epidemic has also led to an increase in the demand for the use of healthy and natural products (Demirdelen and Çiftçi, 2021; Fanelli, 2021; Galanakis, 2020; Zwanka and Buff, 2020). With the Covid-19 Pandemic, the increasing interest of consumers in healthy menu contents has led to the necessity of renewing some menu components by including recently trending products (Cömert and Yeşilyurt, 2021). The study carried out by Bucak and Yiğit (2021) with the Covid-19 Pandemic is the first research in the literature that examines the effects of the epidemic on the food and beverage sector and the changes in their behavior with the chefs working as managers through online interviews. Chefs stated that the change in the sector will be permanent, menu planning processes will be shaped according to local and healthy products, and food safety will be given maximum importance. However, with the Covid-19 Pandemic, this factor has not been examined in the literature on OFD, although chefs think that consumers will turn to healthy menus. Therefore, the following hypothesis has been developed:

H4: With the Covid-19 Pandemic, menus with health claims positively affect the purchasing decision of OFD.

Information

Platforms that offer OFD services provide consumers with comprehensive, detailed and up-to-date information about menus and their contents. In addition to the menu information, it also gives the

consumer the opportunity to follow the status of their order (Alalwan, 2020). In the related literature, it has been stated that the density and currency of the amount of information available increases the interaction of consumers with OFD platforms (Peters et al., 2016). As a result of their research, Kapoor and Vij (2018) discovered that the information provided by OFD platforms has a positive effect on the consumer's order and payment. However, research has shown that consumers expect more than a menu from OFD platforms, the nutritional values, ingredients and cooking methods of the products (Peters and Remaud, 2020). Brewer and Shebby (2021) discovered that menu information increases the consumer's desire for the product during the Covid-19 pandemic. As a result of the study carried out in India by Bagla and Khan (2017), it was observed that consumers prefer platforms that provide detailed information about menus. In addition to these issues, it has been emphasized that the quality of information and knowledge structure in OFD applications are effective in increasing the loyalty of users during the Covid-19 pandemic period (Prasetyo et al., 2021). In the light of this information, the following hypothesis has been developed,

H5: With the Covid-19 Pandemic, information about menus and contents of OFD applications positively affects the consumer's purchasing decision.

1. RESEARCH METHODOLOGY

A self-administered questionnaire was developed based on a comprehensive review of previous literature. At the beginning of the questionnaire, a definition of OFD was presented. There were two main sections to the survey. The first section included questions asking the socio-demographic information of the respondents. The second section of the questionnaire was comprised of items measuring study constructs, including KA, TT, BLG, SME, YTH and SAK using a 5-point Likert scale (1 being “strongly disagree”; 5 being “strongly agree”). Three demographic inquiries were performed of the participants in the first section. The items of scales used in the study and the studies in which the questions were included in the study are as listed in Table 1.

Table 1. Items of Scales Used in the Study

Variable	Items	Research
Comfort Zone (KA)	SM1: Using OFD services helps me maintain social distance.	(Deepika and Arun, 2021)
	SM2: Using OFD services is better at maintaining social distancing than serving food in a restaurant.	
	SM3: Using OFD services is safer at maintaining social distancing than serving food in a restaurant.	
	SM4: Using OFD services gives me the opportunity to avoid the crowd.	(Praseyto et.al., 2021)
	YP1: Reviews and ratings are effective in choosing a restaurant when using OFD services	(Praseyto et.al., 2021)
	YP2: Points are important to me when choosing an Using OFD services	
	YP3: I prefer restaurants with good brand image when using OFD services	
	EL1: Using OFD services gives me the ability to order anytime	(Praseyto et.al. 2021)
	EL2: Using OFD services allows me to order wherever I want.	
	EL3: Using OFD services saves me time instead of going out and buying.	(Depika and Arun, 2021)
	EL4: I like to use OFD services whenever I want.	
Hygiene of OFD Service (YTH)	YTH1: It is important for me that the courier wears gloves.	(Amin et.al., 2021)
	YTH2: It is important for me that the courier wear a mask.	
	YTH3: It is important for me that the courier uses products that will prevent hair loss such as bonnets and berets.	
	YTH4: It is important for me that the courier complies with the general hygiene rules.	
Contactless Delivery(TT)	TT1: The contactless delivery option encourages me to use OFD services	
	TT2: The contactless delivery option is effective in my decision when using OFD services	
	TT3: It is important to me to choose contactless delivery when using OFD services	
Healthy Menus (SME)	SME1: The nutritional content of the menus is important to me when using OFD services.	(Güney and Sangün, 2021)
	SME2: I am willing to choose healthy menu items when using OFD services	(Çetinkaya, 2019)
	SME3: I plan to choose healthy menu items when using OFD services	
	SME4: I make an effort to choose healthy menus when using OFD services	
Information(BLG)	B1: OFD applications have a detailed digital menu	(Kapoor and Vij, 2018)
	B2: OFD applications provide accurate information about products.	
	B3: OFD apps provide me with the information I need	
	B4: Thanks to OFD applications, I can have detailed information about the products in the menus	(Brewer and Sheby, 2021)
Purchase Decision(SAK)	SAK1: I would consider OFD purchase again	(Baytürk, 2021)
	SAK2 I will continue to OFD purchase	
	SAK3: I have a high probability of OFD purchase again.	
	SAK4: I have a strong desire to use OFD services again when I need it.	
	SAK5: I would recommend OFD services to my friends/family.	

A pilot research involving 20 people was carried out to determine the validity of the questionnaire and gauge how well the items were understood. They were all university graduates, 11 of them female and 9 of them male, with ages ranging from 31 to 58. They were made aware of the study and participated voluntarily.An online questionnaire was used as a data collection method in the

research. The online survey was administered in December 2021 and answered by 469 respondents. At the end of the section, where the demographic information of the participants was collected, the question “have you ever used OFD services?” and “when was the last time you used OFD services?” were included. The surveys of the participants who answered “No” or “Before the Pandemic” to these questions were automatically terminated. For this reason, the survey of 51 participants in total was terminated, as 42 of the 469 participants stated that they had never used OFD services before and 9 of them stated that they only used OFD services before the pandemic. As a result, 418 questionnaires were evaluated and included in the analysis. The population of the research consists of consumers who have used OFD services at least once during the pandemic period. When the probability of occurrence or non-occurrence of events is calculated as 0.5 in cases where the number of individuals in the population is not certain, the sample size is calculated as 384 with a confidence level of 95 percent and a margin of error of 0.05 samples (Kurtulmuşoğlu & Atalay, 2019). In this direction, it can be said that the sample size of 418 reached in the study is sufficient at the 95 percent confidence level. Data analysis was performed using statistical software package SPSS 26 (Statistical PackagefortheSocialSciences – IBM®) and AMOS 24 program. Structural equation modeling used in this research, which allows the relationships between direct and linear variables to be measured through a single model, is a statistical method that is increasingly used in scientific studies in the field of social sciences (Civelek, 2018). SEM allows to test the hypothesis about the relationships between the observed variables measured in the data collection process and the latent variables measured by connecting them to the observed variables since they cannot be measured directly.

2. FINDINGS

Frequency and percentage values for demographic characteristics, time of using OFD services are shown in Table 2 and Table 3.

Table 2. Profile of Respondents (n = 418)

Characteristics	Category	Frequency (n=418)	(%)
Gender	Female	231	55.3
	Male	187	44.7
Marital status	Married	173	41.4
	Single	245	58.6
Age	18-24	131	31,3
	25-34	163	39,0
	35-44	80	19,1
	45 and above	44	10,5
Education Status	Primary education	9	2
	High school	61	15
	associate degree	48	11
	Licence	235	56
	Graduate and above	65	16

Table 3. Last Time to Use OFD Service

Time		Frequency (n=418)	(%)
Last Order	In this week	157	37,6
	In this month	128	30,6
	In the last three months	64	15,3
	longer than three months	69	16,5

To determine the reliability of the scales, the coefficients of the Kaiser–Meyer–Olkin (KMO) test (0.910> 0.5) and Bartlett's test of sphericity (p = 0.000 < 0.01) were identified (Table 4).

Table 4. Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett"s Test of Sphericity

Kaiser-Meyer-OlkinMeasure of SamplingAdequacy.		0,910
Bartlett's Test of Sphericity	Approx. Chi-Square	3988,108
	df	231
	Sig.	0,000

Principal component analysis with quartimax rotation was then used. As a result of the factor analysis, five dimensions were obtained for respondents' evaluations regarding OFD services during the pandemic period namely comfort zone, contactless delivery, healthy menu, hygiene of OFD Service, information. In terms of reliability analysis, Cronbach's alpha value was determined as 0.926. Each dimension's factor loadings and internal consistency values are provided in Table

6.5. the variables YTH2, YTH4, EL1 and EL3 variables were excluded from the analysis because they were loaded on more than one factor with factor values very close to each other.

Table 5. Results of EFA and Reliability

	Factor scores	Internal consistency	Explained Variance
Comfort zone		**0,865**	**34,144**
YP1	0,762		
YP2	0,744		
SM4	0,681		
SM1	0,657		
EL3	0,643		
YP3	0,634		
EL2	0,588		
SM3	0,561		
SM2	0,531		
Healthy Menus		**0,867**	**11,7**
SME4	0,849		
SME3	0,821		
SME2	0,803		
SME1	0,688		
Information		**0,781**	**6,5**
B2	0,755		
B3	0,7		
B1	0,709		
B4	0,669		
Contactless Delivery		**0,836**	**5**
TT1	0,756		
TT2	0,750		
TT3	0,722		
Hygiene of Food Delivery Service		**0,708**	**4,09**
YTH1	0,749		
YTH3	0,711		

How well the model explains the data obtained using SEM is determined by the goodness of fit indices and threshold values. The stage in which the decision to accept or reject the model is made is goodness of fit tests and the threshold values are not exceeded (Ayyıldız & Cengiz, 2006). For this purpose, Chi-square, CMIN/DF, NFI (normed fit index), TLI (Tucker-Lewisindes), CFI (comparative fit index) and RMSEA (approximate root mean square error) indices are used.

These findings suggested that the hypothesized model fitted the data well and the model had an appropriate fit SEM analysis confirmed that the sample was large enough for the structural model and that the relevant model was statistically significant. The next step is to test the hypotheses by interpreting the magnitudes of the correlation degrees based on the path coefficients showing the degree of relations between the latent variables.

Table 6. Goodness of Fit Values

Criteria	Results	Acceptable Fit
X^2	521,8	
RMESEA	0,041	0≤RMSEA≤0.05
CFI	0,96	0.90≤CFI≤1.00
TLI	0,954	0.90≤TLI≤1.00
CMIN/DF	1,7	CMIN/DF≤5
NFI	0,908	0.9≤NFI≤1.00
IFI	0,906	0.9≤IFI≤1.00

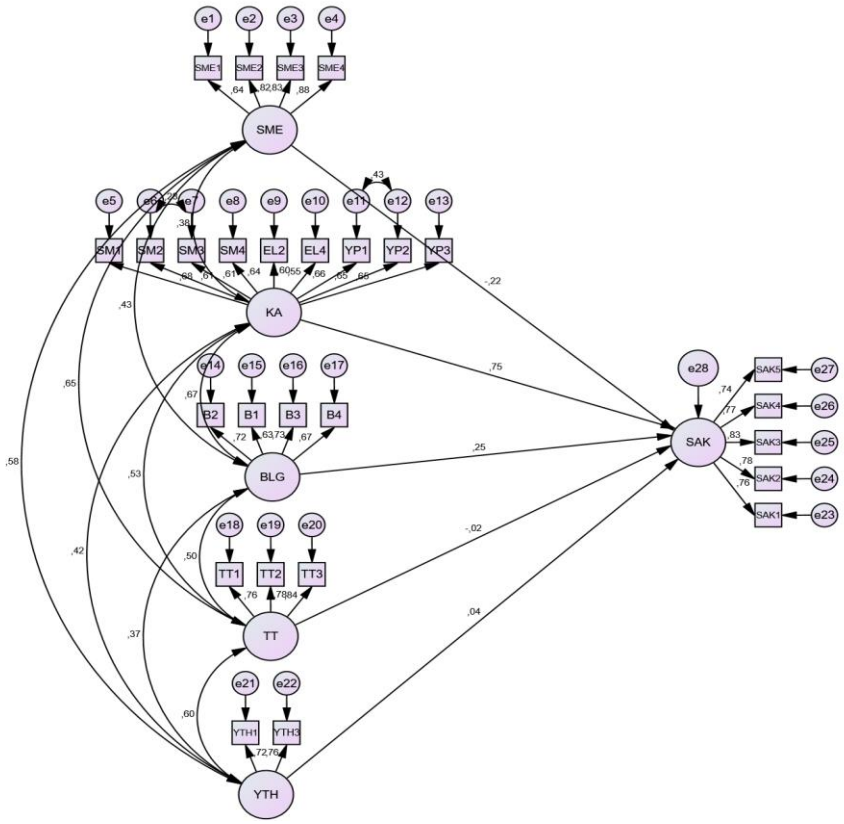

Figure 1. Path Diagram

Table 7. Analysis Results Regarding the Research Model

Points	Path	Factor	β0	S.E.	C.R.	P	Hypotheses	Hypothesis Results
Purchase Decision	<---	Healthy Menus	-0,218	0,058	-3,663	***	H4	Supported
Purchase Decision	<---	Comfort Zone	0,752	0,086	9,317	***	H1	Supported
Purchase Decision	<---	Information	0,249	0,06	3,852	***	H5	Supported
Purchase Decision	<---	Contactless Delivery	-0,018	0,048	-0,278	0,781	H3	Not Supported
Purchase Decision	<---	Hygiene of OFD Service	0,041	0,048	0,673	0,501	H2	Not Supported

According to the results of the Path Analysis in Figure 6.2 and the revised structural equation model in Table 7, the p values calculated for the significance of the relationship between the comfort zone & purchasing decision and information &purchasing decision & are less than 0.001 (p=***< 0.05) and the standardized regression coefficients between them are 0.75 and 0.24 respectively i.e. H1 and H5 are accepted. It is seen that the p value calculated for the significance of the relationship between healthy menus and purchasing decision is less than 0.001 (p=***<0.05) with the standardized regression coefficient between healthy menus and purchasing decision (-0.21). Considering this value, there is a negative relationship between healthy menus and purchasing decision i.e. H4 is rejected. As p values calculated for the significance of the relationship between the hygiene of OFD service & purchasing decision and contactless delivery & purchasing decision are greater than 0.1 so H2 and H3 could not be supported.

3. DISCUSSION AND CONCLUSION

Due to the spread rate and severity of the Covid-19 Pandemic, countries have entered the struggle process by taking radical measures. The protocols followed and the measures implemented in this process have greatly changed human interaction and approach, and have caused people's daily lives to be deeply affected (Kirk and Rifkin, 2020; Laato, et al., 2020; Sheth, 2020; Yuen et al., 2020). From this change experienced, the axis of consumer behavior and consumer demands has also changed (Hussey, 2021). In this process, the procedures followed by governments have not only changed consumer behavior, but also caused businesses to adapt their business methods (Kim

et al., 2021). The food and beverage sector has also suffered heavy damage due to these sanctions. In this process, where the sector has difficulty in turning its economic wheels, OFD service has turned into a lifeline for the sector in this process (Iybar, 2020).

As a result of the SEM analysis, it has been shown that the comfort zone factor has the most and positive effect on the consumer's purchasing decision with the Covid-19 Pandemic, it was seen that it was supported in the same direction by existing studies (Brewer and Sebby, 2021; Kimes, 2011). From this point of view, it is possible to say that the opportunity of consumers to order from anywhere at any time while staying in their comfort zone has a positive effect on their decision to use OFD service. Because of this factor, which affects consumers' decision to use OFD service, it can be recommended that restaurants provide service to consumers in wider time zones, even if they are not online 24/7.

Before the Covid-19 Pandemic, mostly young consumers wanted what they wanted "when they wanted it", but with the Covid-19 Pandemic, this demand has spread to a much wider customer base. In this context, it can be recommended that businesses turn to cloud kitchens in order to respond to more OFD services requests in a wider time frame. Cloud kitchens; are kitchens where different restaurants that only accept OFD through their online apps and websites share common space to make their food and service customers through delivery (Affility, 2021). These are also known as virtual kitchens, dark kitchens, commercial kitchens, ghost kitchens and cyber kitchens, have grown rapidly due to the fact that they satisfy consumers' social distance sensitivity by keeping human interaction at a minimum level during the Covid-19 period (Affility, 2021). While cloud kitchens attract the attention of businesses due to lower costs and higher profit margins, it is predicted that most of the meals consumed at home will be prepared by cloud kitchens in the near future (Adams, 2020). It is recommended that businesses consider the cloud kitchen option in order to respond to the comfort zone sensitivity of the consumer and to catch the cloud kitchen trend that is predicted to be experienced in the near future and to get a faster reaction in possible pandemics.

As a result of the SEM analysis, it was determined that the information had a positive effect on the OFD services purchasing decision of the consumer. In this context, it is possible to say that the same conclusion has been reached with previous studies in the literature (Bagla and Khan 2017; Brewer and Shebby 2021; Kapoor and Vij, 2018; Lee et al., 2019; Praseyto et al., 2021). It is

recommended to keep the products in their online menus and their stock status, product contents, average delivery time up to date. In order to achieve this, businesses need to regularly update the information and timelines they provide. The fact that businesses keep their information up-to-date by checking frequently will both positively affect the purchasing decisions of consumers in the online environment and minimize the dissatisfaction that may arise due to erroneous information.

A negative relation was found between healthy menus and OFD services decision contrary to expectations. Contrary to the expectation of the chefs in the relevant literature that the consumers will turn to healthy products with the Covid-19 Pandemic (Bucak and Yiğit, 2021; Cömert and Yeşilyurt, 2021), one of the reasons why a negative relationship was found online may be due to the fact that most of the participants are single and young. For this reason, it is recommended that businesses whose target audience is young people in online food ordering should not include healthy menu messages in their communication strategies.

Contrary to previous literature support, the positive relationship assumptions between hygiene of OFD service & contactless delivery and purchasing decision of OFD services could not be supported statistically.

There are some limitations in the study. Future studies may be carried out with samples that may include more participants with differents demographic and behavioral characteristics to obtain a more representative population, or similar studies can be repeated in other countries as cross-cultural studies are expected to contribute more valid result. Another limitation of the study is the absence of any region or city limitations. Since businesses operating in the online environment operate in certain regions, it is thought that repeating the research according to some provinces and even districts will help to better analyze consumer behavior in the target market.

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A Bibliometric Analysis on the Concept of Union Effectiveness

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Abstract

Aim: The main aim of this research is to examine the concept of 'union effectiveness' through the scientific mapping technique.

Method: Keyword, citation, and bibliometric matching analysis was applied to 546 publications obtained from the Scopus database between 1979 and 2023. In the data search, the word 'union effectiveness' was searched with the 'all fields' option. Only English texts were considered during the search. Scientific mapping visualizations were presented through Vosviewer software.

Results: It was determined that the journal with the highest number of publications is the British Journal of Industrial Relations. The USA is the country with the most publications. University of Haifa ranks first among the top 10 universities with the most publications. There is an intense interaction between the USA-China-Israel-South Korea-Ireland in the cluster of the most cited countries in the co-authorship network. The most prominent keywords in the studies are emotional commitment-employee turnover tendency-job satisfaction-organizational citizenship behavior-organizational commitment-performance-trust. It is seen that the most directly cited author is Cohen A. In the co-citation analysis of the document references, it was found that Boxall P and Haynes P (1997) were highly cited.

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Conclusion: It is aimed that the data presented by this research will be a guide within its own limitations to academics who will address the issue of union effectiveness in their research.

Keywords: Trade union, Trade union effectiveness, Bibliometric analysis, Vosviewer, Scopus

INTRODUCTION

Unlike systematic literature review, bibliometric analysis is a quantitative analysis method that aims to reveal which authors have contributed to the literature on a particular subject and how the subject has developed over time. This method can also provide clues about the cooperation and communication among regions, institutions, academic disciplines, and researchers within the framework of the concept under study (Yılmaz, 2021).

Using exceptionally large databases such as Web of Science or Scopus in bibliometric analysis is quite common among researchers (Gök, 2021; Öztürk and Kurutkan, 2020; Salmerón-Manzano and Manzano-Agugliaro, 2017; Kazak and Kazak, 2023; Kavurmacı, 2022). In this study, Scopus, which has a huge database bringing together more than 87 million documents, nearly 2 billion cited references, more than 17 million authors, more than 335 thousand books and more than 7 thousand publishers, was preferred (https://www.elsevier.com/solutions/scopus/how-scopus-works/content, Retrieved: 16 May 2023).

It is emphasised in recent review studies that trade unions have a significant impact on both employees and business outputs within labour relations systems that differ from each other for certain reasons such as the internal dynamics of countries (Leigh and Chakalov, 2021).

Although the union phenomenon and the concept of union effectiveness have received significant attention in the industrial relations literature, these concepts have not been carried to other research areas in the same parallel. Based on this observation, the point at which the accumulation of literature on the concept of 'trade union effectiveness' has reached is tried to be presented within the limitations of this research. However, when Web of Science, Scopus and Google Scholar databases are searched in English and Turkish, it is seen that no bibliometric study on 'union effectiveness' has been published yet. Finally, it is hoped that this research will create an awareness for academicians who conduct their research on management science and guide the studies that investigate the attitudes/behaviours and work outcomes of employees.

Background

The concept of trade union effectiveness has been discussed in the literature for a long time as a continuation of the organisational effectiveness literature. It is known that employee unions, which are accepted as a non-profit civil society organisation, have developed organisation models with different motives (Stanford, 2021; Keyes et al., 2022; Tokol, 2017).

From the past to the present, trade unions have been regarded as an important building block of labour relations systems in terms of protecting the rights and interests of employees. However, with the human resource management approach taking root in the public and private sectors, they have not lost their importance and this time, as a party to the tripartite dialogue mechanism (employer, employee, and state), they are important for employees with functions such as 'collective strength', 'power balancer', 'social support provider', 'economic leverage' and 'collective voice'. Therefore, this reality observed in working life also finds its place among academic disciplines. Recent examples of this can be seen in the US, where human resource management and industrial relations disciplines are considered together (Budd, 2018).

It is stated by some researchers in the literature that there is a limited number of studies on union effectiveness (Gall and Fiorito, 2016; Pyman and Hanley, 2002).

Although the concept of organisational effectiveness is explained with different approaches in the literature, it is defined as "the level of achieving the end that the organisation aims to reach" (Ergeneli, 1995). The organisational effectiveness discussions that were put forward in the literature are shaped within the framework of "competing values" approach with the components of "human relations model", "open system model", "internal process model" and "rational goal model". Accordingly, the methods and goals of organisations differ from one another, and these differences are observed to move along three axes such as organisational focus, organisational structure, and means-ends (Quinn and Rohrbaugh, 1983).

In the literature, the concept of union effectiveness is defined as the ability to increase the wages of employees, to protect employees against possible unfair practices by the employer, to promote equitable opportunities in the workplace, to ensure decent working conditions and to cooperate with the employer to improve work-related problems (Bryson, 2003).

According to Fiorito et al. (2001), it does not seem possible to construct a universally valid union effectiveness scale. In another study, it is known that a measurement tool called the

"National Union Effectiveness Scale" was developed in the USA from this point of view (Fiorito et al., 1993).

Frege (2002) stated that union density is not a universal measure of union effectiveness and that various levels of membership density in different countries are insufficient to explain changes in relative wages. In addition, this researcher also states that the 'goal model' of organisational effectiveness is insufficient to measure union effectiveness.

Mellor et al. (1999), on the other hand, stated that they created the Perceived Union Effectiveness Scale with the theme of "organisations that promote fairness in work-related matters" by combining fourteen items selected from the studies on 'union performance', 'union instrumentality' and 'union power' in the literature. Furthermore, the authors emphasised the distinction between the intertwined definitions of union effectiveness / instrumentality in the literature by including the following statements in their study.

"...In the perceived union instrumentality/effectiveness literature, the constructs of union instrumentality and union effectiveness are often used interchangeably. To the extent that both constructs refer to the degree to which members perceive their union as successful in bringing about valuable procedures or delivery, we agree that the two concepts can be used interchangeably. However, because we are looking for members' perceptions of union success rather than the likelihood of success, we refer to perceptions of union effectiveness..." (Mellor et al., 1999).

Other studies explained the structural framework of the concept of union effectiveness as summarised in Table-1. In these studies, like Mellor et al. (1999), there is an emphasis on the function of union effectiveness in 'promoting work-related organisational justice' (Bryson, 2003; Gall and Fiorito, 2016; Alexander et al., 1995).

Table 1. Studies Providing Conceptual Frameworks on Trade Union Effectiveness

Author, Publication Year	**Explanation**
1-**(Bryson, 2003)**	Dimension One (ORGEFF): The ability of unions to communicate and share information, the functions that unions undertake in terms of providing counselling services to their members, their transparency towards their members, their sensitivity to members' complaints, the extent to which management takes the union seriously, the employer's view of the union, the strength of the union. Second dimension (DELIVER): Obtaining a salary increase, resisting unfair treatment, providing equal opportunities for employees, making work attractive and enjoyable, working with management to improve performance, sensitising employees to managerial issues, making the workplace a better place to work.

2- **(Gall and Fiorito, 2016)**	Dimensions: Bargaining, organisation, recruitment, self-sufficiency, political action, loyalty of members, ability to raise funds. Indicators: Impact on wages, impact on fringe benefits, impact on achieving justice in the workplace, success in political elections, ability to create a sense of justice in society, membership growth, ability to create active members, financial sustainability.
3- **(Burchielli, 2004)**	Effectiveness in Representation: Sensitivity towards members, recruitment of new members, ability to achieve the main objectives of the union. Effectiveness in Trade Union Management: Structure and strategies, adaptation to innovative practices, clarity of objectives, leadership, transparency towards members. Effectiveness in Ideology: Adherence to social values, creating a culture of solidarity, ability to create active members, loyalty of members to the union, intervening in the political environment to enact favourable laws and monitoring their enforcement.
4- **(Fiorito et al., 2001)**	It is emphasised that it is difficult to obtain a universal scale of union effectiveness. The study only discusses union effectiveness in terms of their adaptation to innovative practices (such as establishing WEB-based communication networks, organising training activities to provide professional skills to their members to adapt to the competition in the labour market).
5- **(Boxall and Haynes, 1997)**	The strategic choices that unions make according to the environment in which they exist determine their organisational effectiveness and they prefer organisational structures accordingly. In New Zealand, organising models are classified as 1-classic unionism, 2-paper tiger unionism, 3-partnership unionism, and 4-consultancy unionism.
6- **(Frege, 2002)**	"...Although union density is an objective measure of effectiveness in terms of its effect on wage growth, the relative wage may be higher in one country than in another when union density is low. In addition, starting from the success of achieving any union-specific targets would not be correct, considering that these targets may also change according to changing conditions..." (p.58-59). The researcher emphasises that instead of these criteria, the possibility and ability of unions to influence the workplace management in work-related decisions are taken as a basis.
7- **(Pyman and Hanley, 2002)**	The determinants of trade union effectiveness vary depending on the business and external environment of the organisation. However, the dimensions of trade union effectiveness consist of 1-improving employment conditions, 2-growth, 3-organisational democracy, 4-organisational stability, 5-activism, and 6-social movement unionism.
8- **(Alexander et al., 1995)**	"...One of the general functions of trade unions is to protect employees against arbitrary behaviour by workplace management (Gordon and Fryxell, 1993) ...Trade unions reduce arbitrary practices by (a) defining the limits of managerial authority (b) determining the collective bargaining process and (c) preventing management negligence in breaching the labour contract (Sheppard et al., 1992) ..."

1. RESEARCH METHODOLOGY

The literature review was conducted on 16 May 2023 using the Scopus database. In the data search, the word 'union effectiveness' was searched with the 'all fields' option. Only English texts were taken into consideration during the search. Only research articles, review articles, book chapters and conference proceedings were included in the search. 'Business, Management and Accounting', 'Social Sciences', 'Economics, Econometrics and Finance' and 'Psychology' were selected as 'subject area'. Subject areas such as 'Medicine', 'Computer Science' and 'Arts and Humanities' were excluded. No other text search constraint was used. A total of 546 results were included.

The English literature obtained because of the search was analysed with VOSviewer bibliometric data analysis software. “VOSviewer was released in 2010 by Nees Jan van Eck and Ludo Waltman (Leiden University)” (Arruda et al., 2022; Xie et al., 2020). “The program allows researchers to map the literature by performing measurement and analysis in units of analysis such as author, institution, country, document, key concept, abstract, sources within the framework of co-authorship, co-citation, bibliographic matching and concept association analysis based on network, bibliographic and textual data of the studies carried out in a specific field” (Arslan, 2022). VOSviewer software can create a literature map on a specific theme and facilitate analysis with the help of visuals. Furthermore, Table-2 presents the analysis units of this software.

Table 2: VOSviewer Analysis Types and Units

Analysis Types	**Analysis Units**
Co-authorship	Authors
	Organizations
	Countries
Co-occurrence	Authors keywords
Citation	Documents
	Sources
	Authors
	Organizations
	Countries
Bibliographic coupling	Documents
	Sources
	Authors
	Organizations
	Countries
Co-citation	Cited references
	Cited sources
	Cited authors

Source: VOSviewer version 1.6.19

2. FINDINGS

As a result of the research, it was found out that 546 works in the literature were published between 1979-2023. Of these studies published in English, 401 were research articles, 62 were book chapters, 39 were reviews, 38 were books and 6 were conference proceedings.

Table-3 shows the number of publications according to the country of origin. Accordingly, among the top ten countries with the highest number of publications on the subject, the USA ranked first with 151 publications, while the Netherlands ranked 10th with twelve publications.

Table 3. Number of Publications by Countries (Top ten)

Rank	Country	Number of Publication	Rank	Country	Number of Publication
1	USA	151	**6**	Israel	25
2	UK	124	**7**	New Zealand	17
3	Australia	54	**8**	Italy	13
4	Canada	49	**9**	China	13
5	Germany	27	**10**	Netherlands	12

Source: Scopus, Retrieved: 16 May 2023

Table-4 shows the number of publications according to journals. Accordingly, among the top 10 journals with the highest number of publications on the subject, 'British Journal of Industrial Relations' ranked the first with 20 publications, while 'Transfer European Review of Labour and Research' ranked the 10th with 7 publications.

Table 4. Number of Publications by Journals (Top ten)

Rank	Journal	Number of Publication	Rank	Journal	Number of Publication
1	British Journal of Industrial Relations	20	**6**	European Journal of Industrial Relations	13
2	Economic and Industrial Democracy	19	**7**	Employee Relations	12
3	Journal of Labor Research	18	**8**	International Journal of Human Resource Management	11
4	Journal of Industrial Relations	17	**9**	Industrial Relation	9
5	Labor Studies Journal	15	**10**	Transfer European Review of Labor and Research	7

Source: Scopus, Retrieved: 16 May 2023

As seen in Table-5, among the 10 universities with the highest number of publications on the subject, 'University of Haifa' ranked first with 20 publications, while 'University of Manitoba' and 'Cardiff University' ranked the 10th with 9 publications.

Table 5. Number of Publications by Universities (Top ten)

Rank	University	Number of Publication	Rank	University	Number of Publication
1	University of Haifa (Israel)	20	**6**	Monash University (Australia)	11
2	Florida State University (USA)	18	**7**	Universiteit van Amsterdam (Netherlands)	10
3	Cornell University (USA)	12	**8**	Griffith University (Australia)	10
4	University of Hertfordshire (UK)	12	**9**	University of Manitoba (Canada)	9
5	London School of Economics and Political Sciences (UK)	11	**10**	Cardiff University (Wales)	9

Source: Scopus, Retrieved: 16 May 2023

2.1. Co-Authorship Analysis (Country)

The co-authorship analysis in terms of cross-country collaboration is shown in Figure-1 and Figure-1.1. It was detected that 20 out of 70 countries in the dataset fulfilled the criterion of at least 5 publications from any country and having zero or more citations. VOSviewer states that the data for 18 countries gives more consisted results.

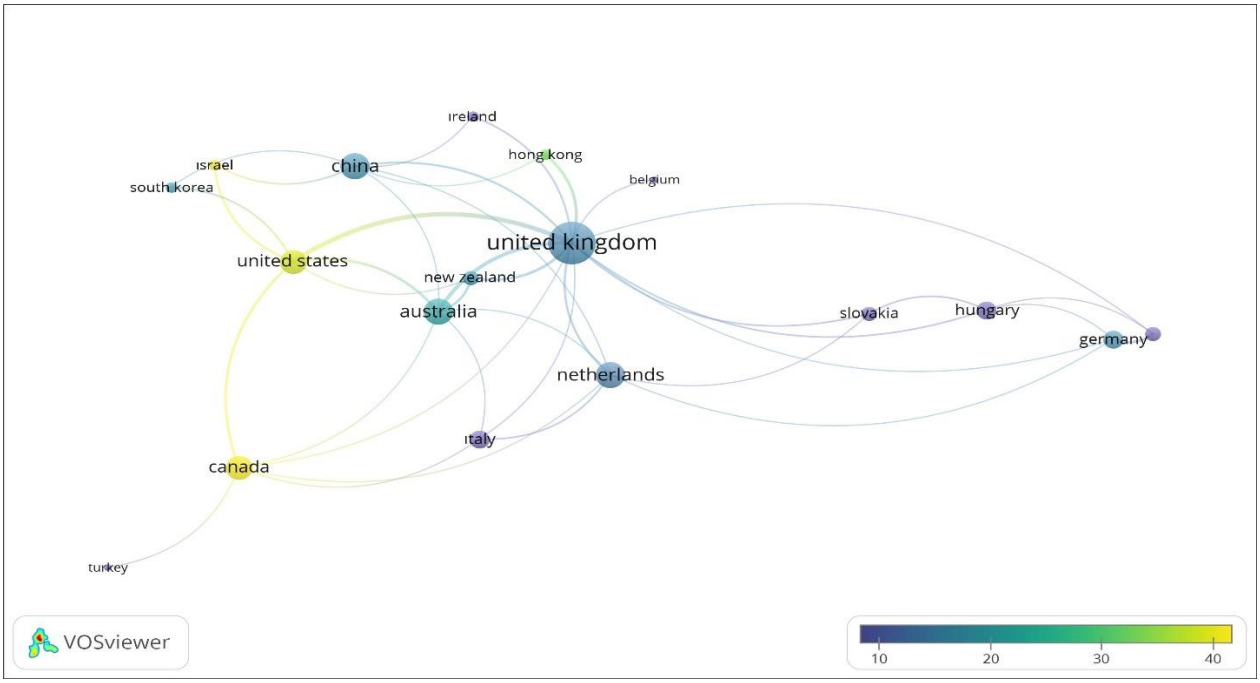


Figure 1. Co-authorship Analysis (Country)

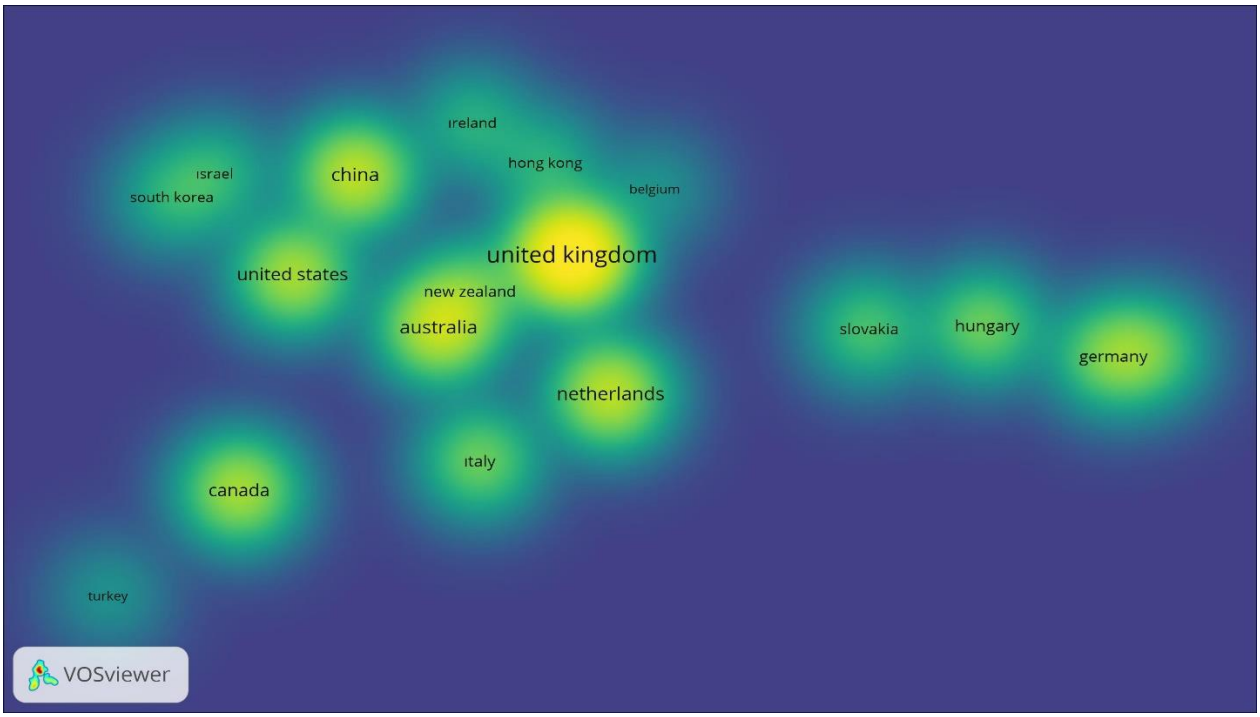


Figure 1.1. Co-authorship Analysis (Country-Density)

Accordingly, the first cluster was between Australia-Canada-New Zealand-United Kingdom-USA; the second cluster was between Germany-Poland; the third cluster was between Hungary-Slovakia; the fourth cluster was between Italy-Netherlands; and the fifth cluster was between China-Israel. Although Belgium, Hong Kong, South Korea, Turkey, and Ireland constituted the remaining 5 clusters, they did not have a prominent place in the context of the analysis due to their weak connections with other countries and their relatively low average number of citations.

2.2. Author Citation Analysis

The researchers who have dealt with the issue of 'union effectiveness' in the literature and whose works have been cited the most are shown in Figure-2 and Figure-2.1. When it is taken into consideration that any author has at least 1 publication and has been cited at least 100 times, it was seen that 21 out of 471 authors fulfilled this criterion.

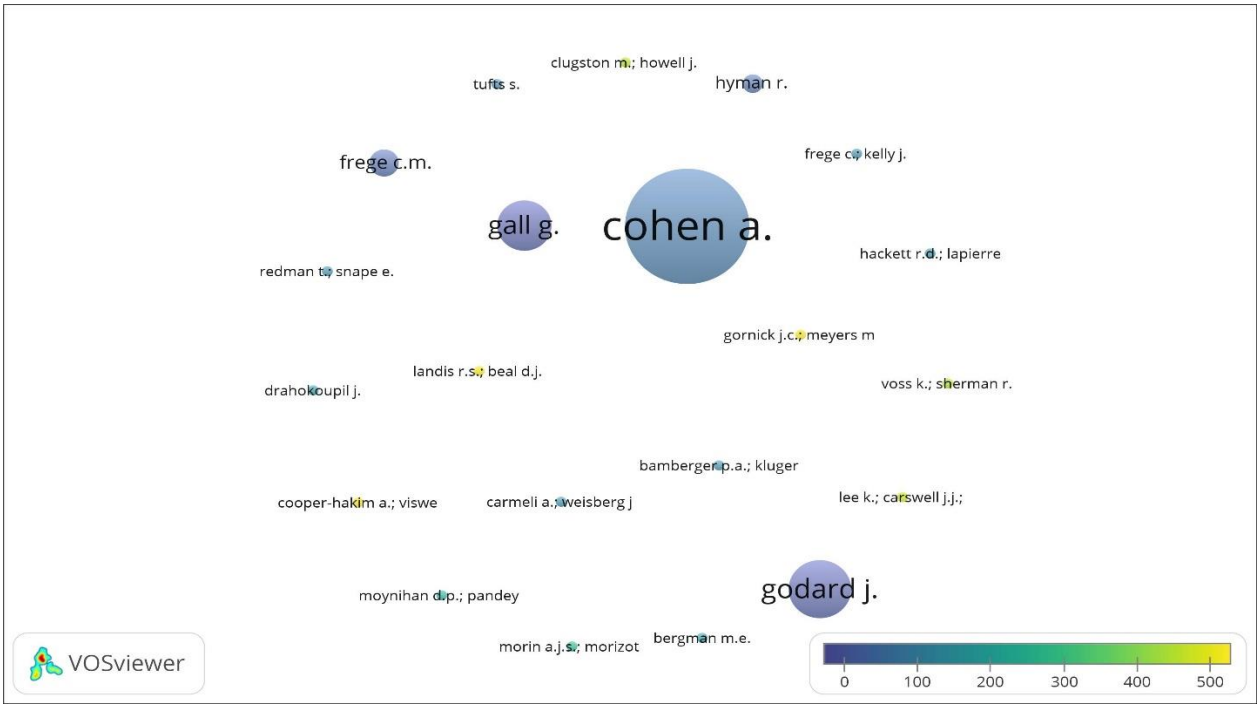


Figure 2. Author Citation Analysis

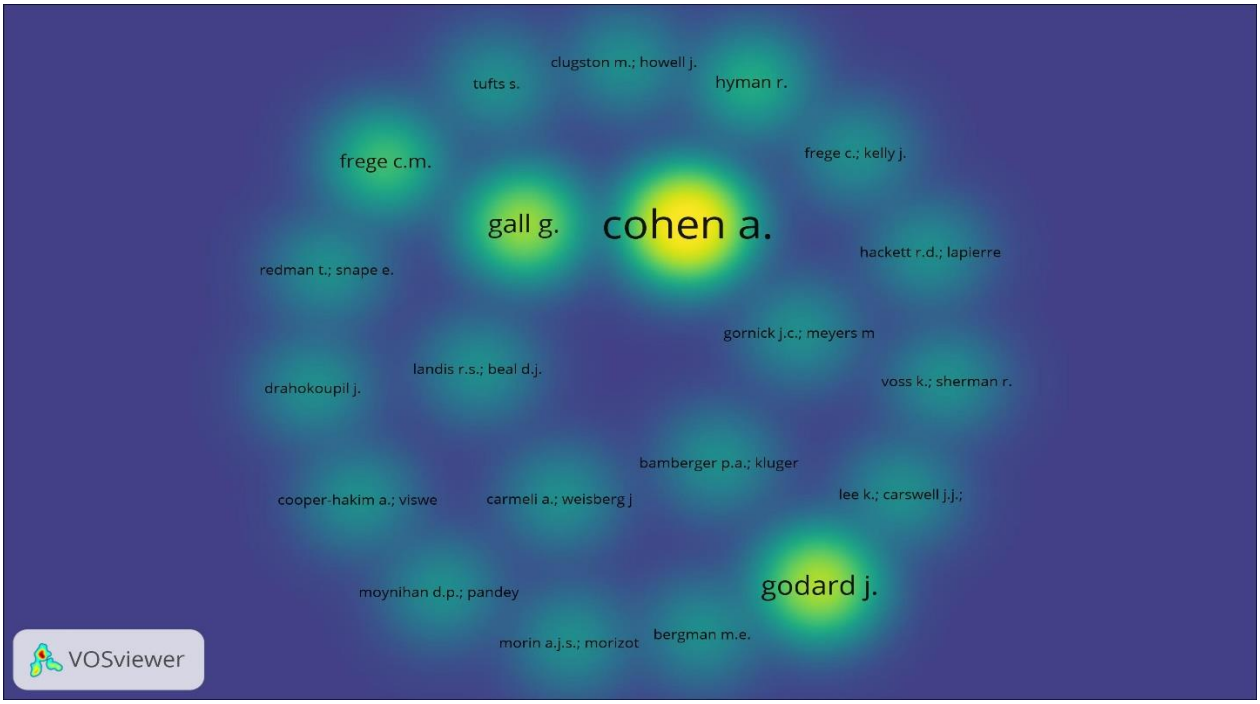


Figure 2.1. Author Citation Analysis (Density)

Although there was a criterion of at least 1 publication in the analysis criterion, it was observed that there were researchers with 2 or more publications (between 2 and 15 articles) with a significant difference. Accordingly, it was determined that the first 5 researchers with the most

publications were Cohen A; Godard J; Frege CM; Gall G and Hyman R. These researchers received a total of 1071; 151; 130; 122 and 104 citations, more frequently between 2002-2008, respectively.

2.3. Keyword Analysis

The keywords used in 546 analysed works are shown in Figure-3 and Figure-3.1. Considering that a word should be used at least 5 times in any work, it was found that 33 of the total 903 keywords met this criterion.

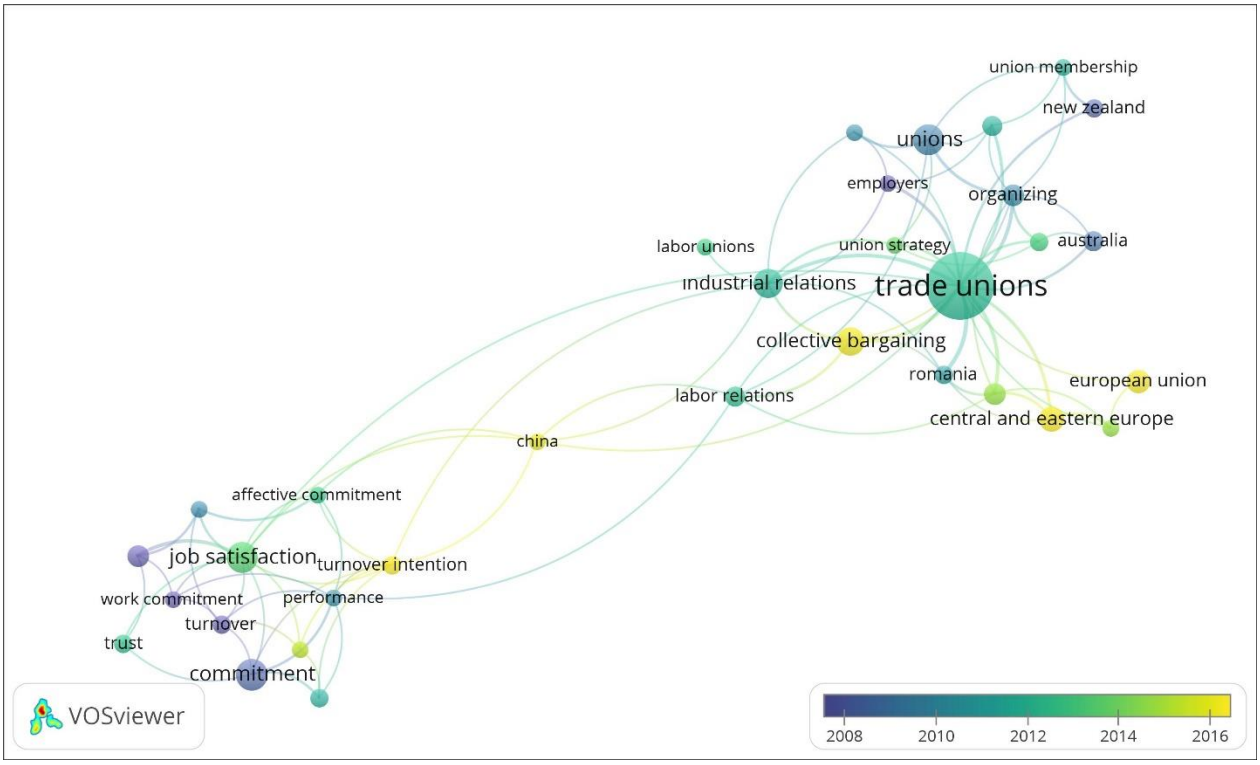


Figure 3. Keyword Analysis

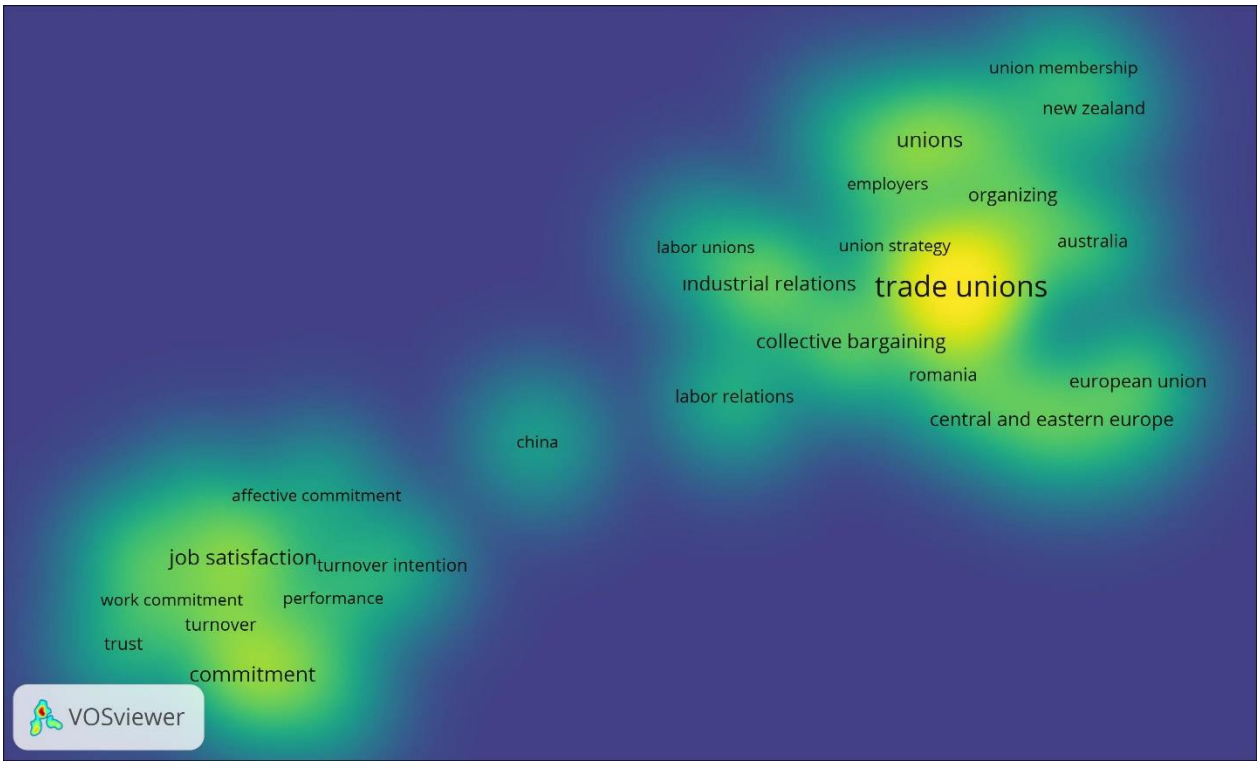


Figure 3.1. Keyword Analysis (Density)

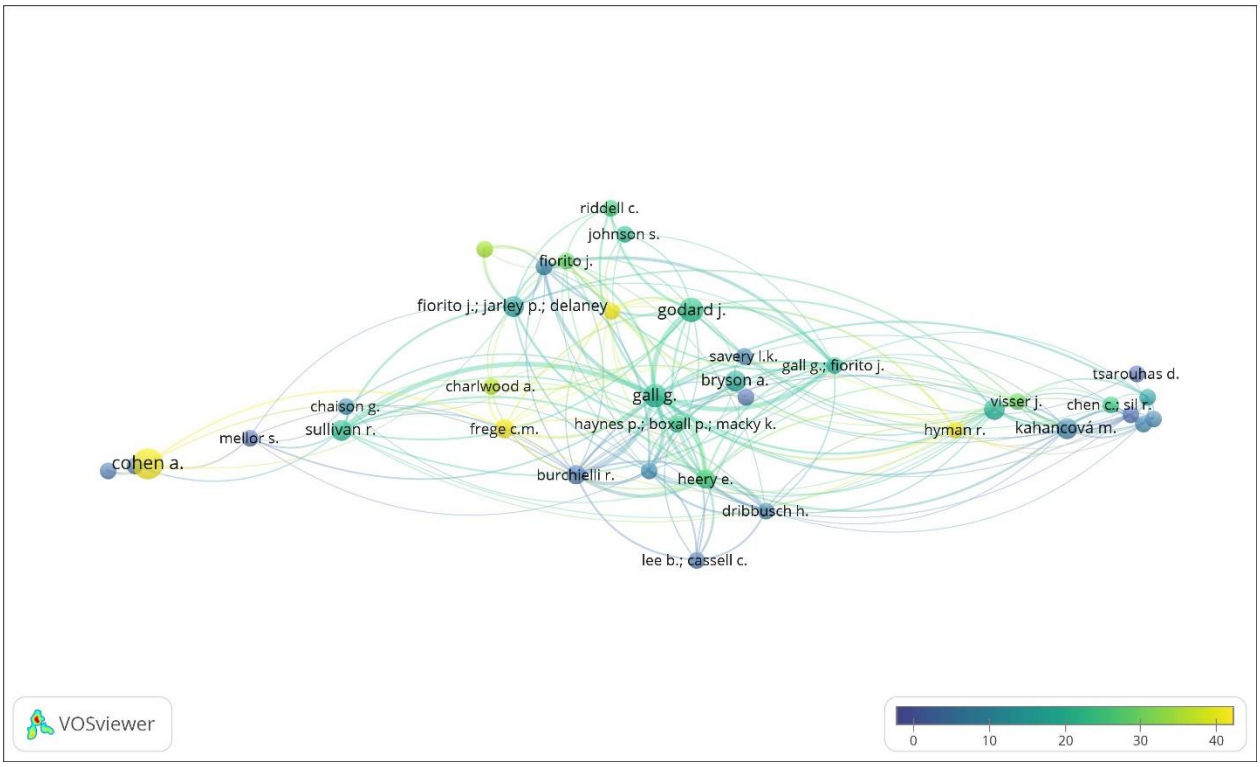
Accordingly, in the first cluster, the words emotional commitment-employee turnover tendency-job satisfaction-organisational citizenship behaviour-organisational commitment-emotional commitment-performance-trust; in the second cluster, the words corporatism-European Union-Poland-Romania-unionism; employers-New Zealand-social movements-union membership-union organisation in the third cluster; China-collective bargaining-industrial relations-employee unions in the fourth cluster; and Australia-organisation-union renewal-union strategy in the fifth and final cluster.

According to the VOSviewer analysis, the top 5 most frequently used keywords were trade unions, commitment, job satisfaction, unions, and industrial relations, respectively. The frequency with which these keywords were used according to the years of publication is shown in Figure-3. Accordingly, the word 'trade unions', 'commitment', 'job satisfaction', 'unions' and 'industrial relations' was used more frequently in 2012, 2008, 2013, 2009 and 2011, respectively.

2.4. Bibliometric Coupling Analysis of Authors

"Documents that are found to refer to one or more common sources in the reference lists are described as bibliographically coupling documents" (Zan, 2019).

By applying bibliometric coupling analysis to the studies in the database according to authors (Figure-4), it was taken into consideration that any author had at least 2 works and that the authors had been cited at least 1 time. Accordingly, it was detected that 39 out of 471 authors fulfilled these criteria. VOSviewer recommends visualising 37 authors to ensure the link agreement between the data.



Cohen A; Godard J; Frege CM; Gall G; Hyman R were the first 5 authors who were cited the most in the reference lists of the publications. Accordingly, it was detected that Cohen A has a dominant weight in the density map (Figure 4.1) among the 37 researchers listed with at least 2 studies and at least 1 citation.

Figure 4. Bibliometric Coupling Analysis of Authors

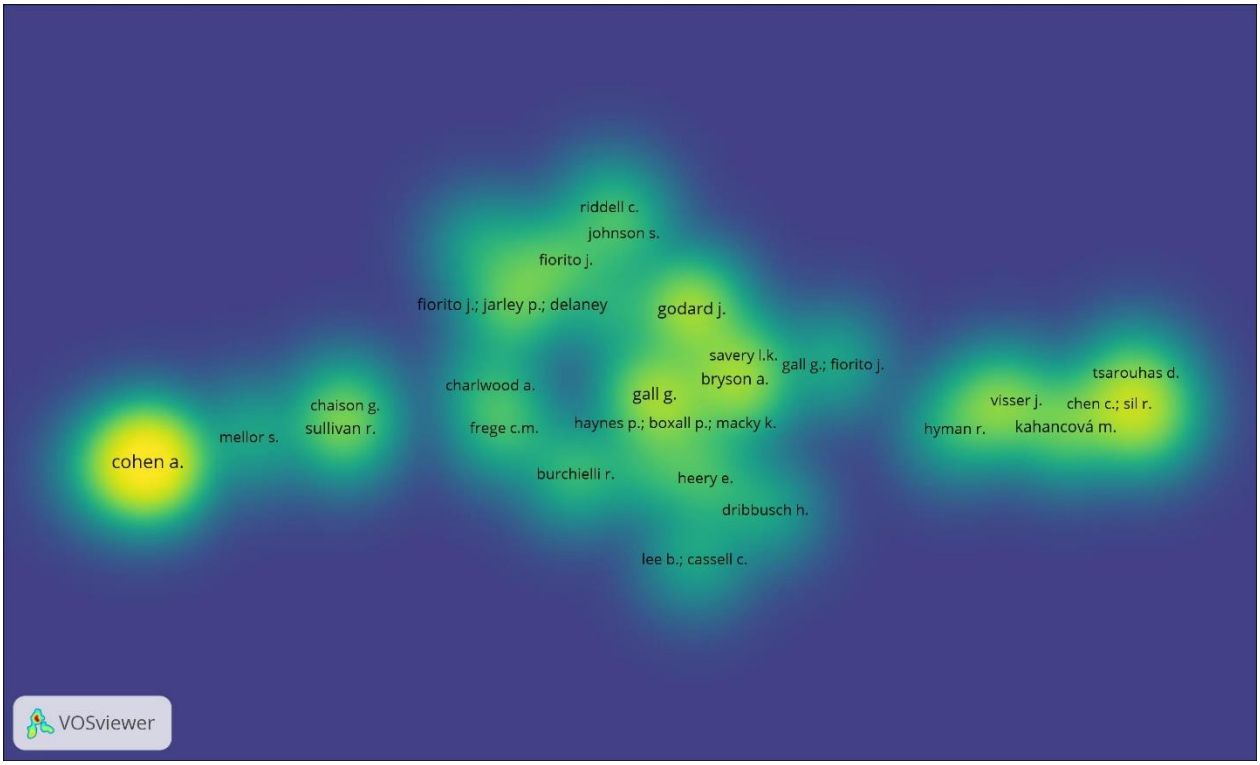


Figure 4.1. Bibliometric Coupling Analysis of Authors (Density)

2.5. Bibliometric Coupling Analysis of Sources

When bibliometric coupling analysis was performed in the database according to journals, 18 of the total 287 sources met the criteria that a source has at least 5 documents and that the source has been cited at least once.

As shown in Figure-5 and 5.1, British Journal of Industrial Relations, Journal of Vocational Behaviour, Journal of Organisational Behaviour, Human Relations, Journal of Labor Research were the top 5 journals with the highest number of citations (between 232 and 848). In terms of the strength of the link between the sources, the top 5 journals were as follows: British Journal of Industrial Relations, The Sage Handbook of Industrial Relations, Economic and Industrial Democracy, Journal of Industrial Relations, Employee Relations.

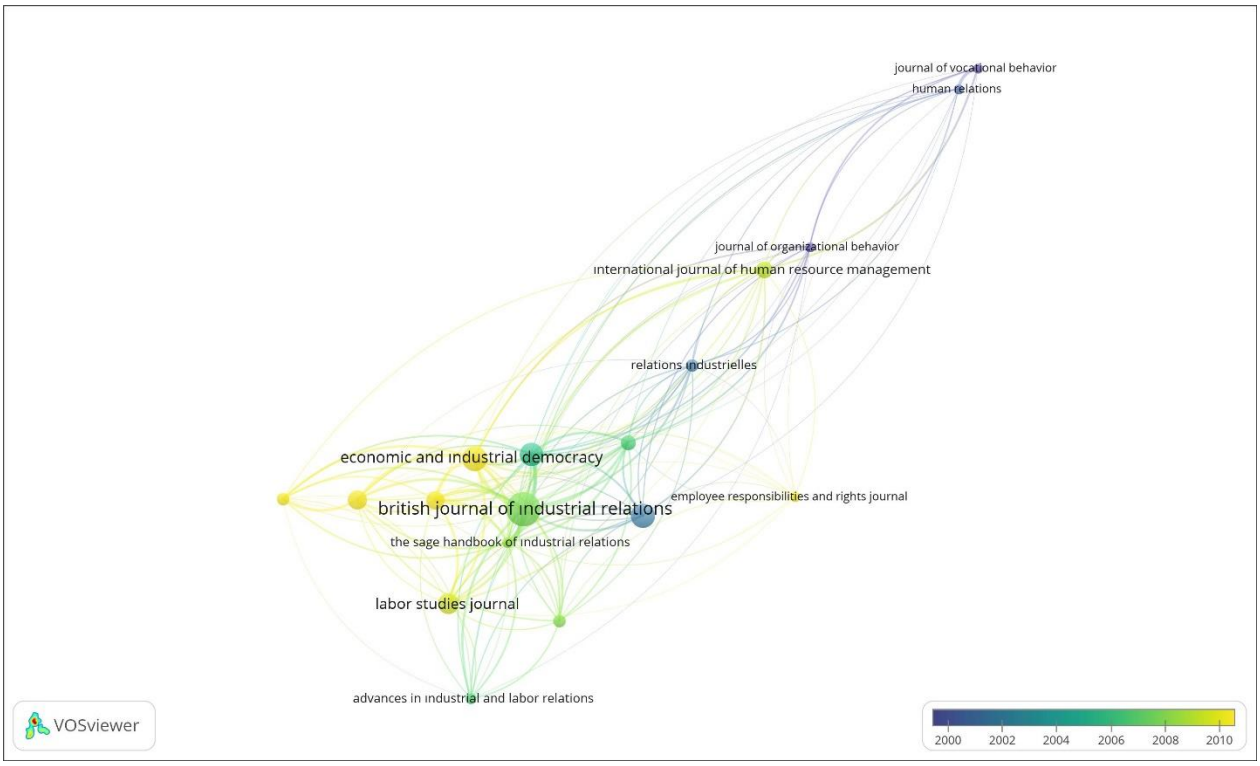


Figure 5. Bibliometric Coupling Analysis of Sources

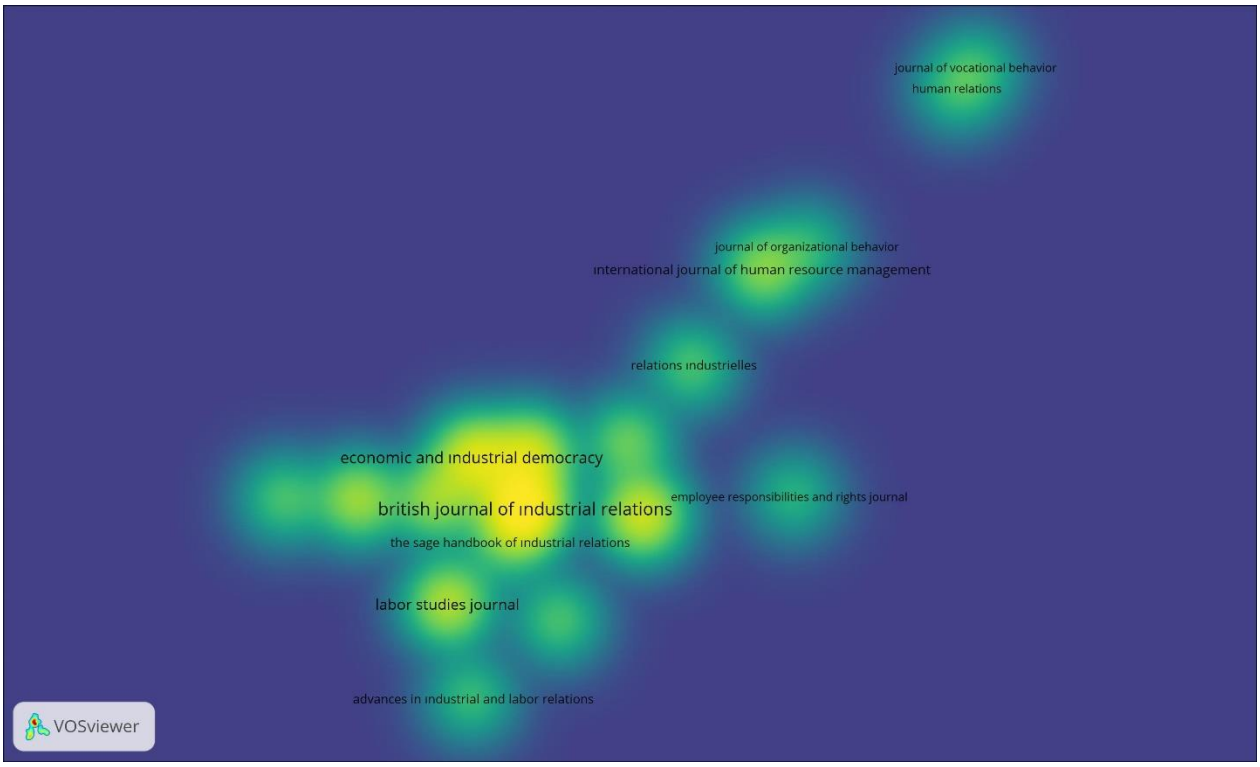


Figure 5.1. Bibliometric Coupling Analysis of Sources (Density)

2.6. Co-Citation Analysis of the Cited Reference

If two documents are cited by another document, a co-citation relationship emerges between these three documents (Zan, 2019).

According to the findings obtained from the database, as long as the minimum number of citations of the cited sources was determined as 15, it was observed that 18 of the total 36713 works in the reference list of 546 studies subjected to analysis met this criterion. VOSviewer recommends that this number should be reduced to 11 to perform this analysis on more compatible data.

As seen in Figure-6 and 6.1, visuals were grouped in 3 clusters. The first cluster included Boxall and Haynes, Freeman RB and Medoff J, Freeman RB and Rogers J, Heery E, Peetz D. The second cluster included Avdagic S, Crouch C, Freeman RB and Medoff J, Kelly J. The third and the last cluster included Clawson D, Fantasia R and Voss K. The publication title, the author of the publication and the number of citations of the publications are shown in Table-6.

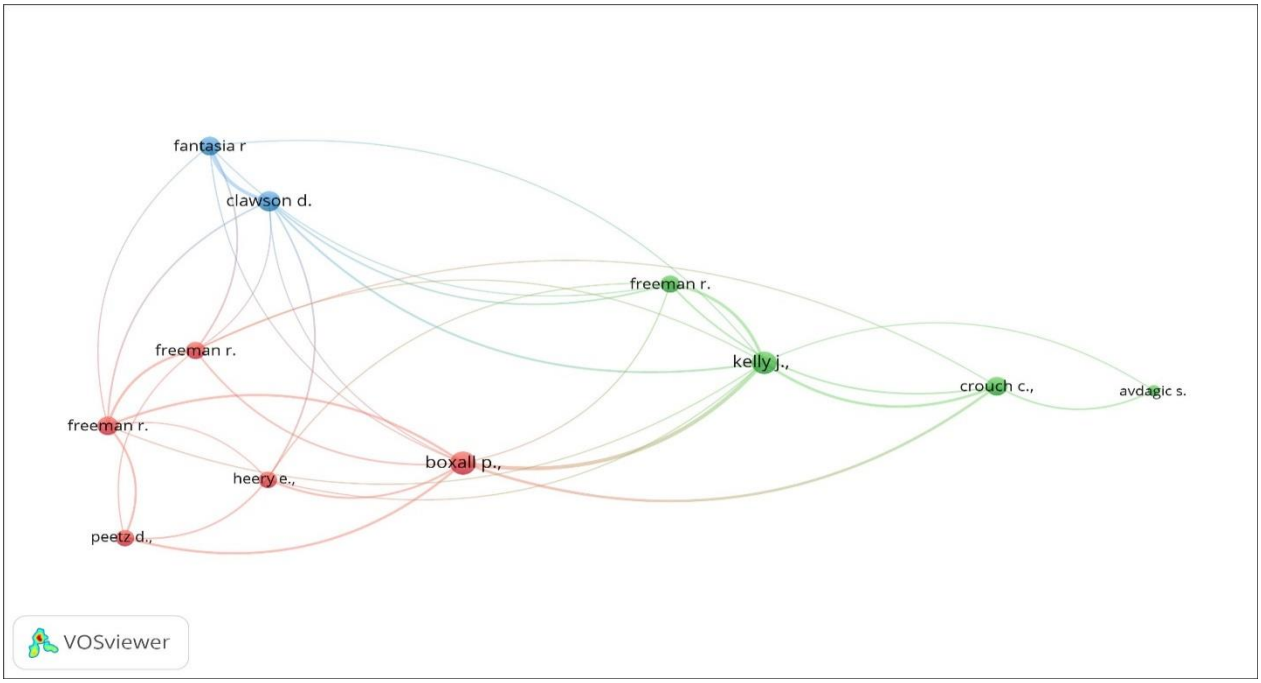


Figure 6. Co-citation analysis of the cited reference

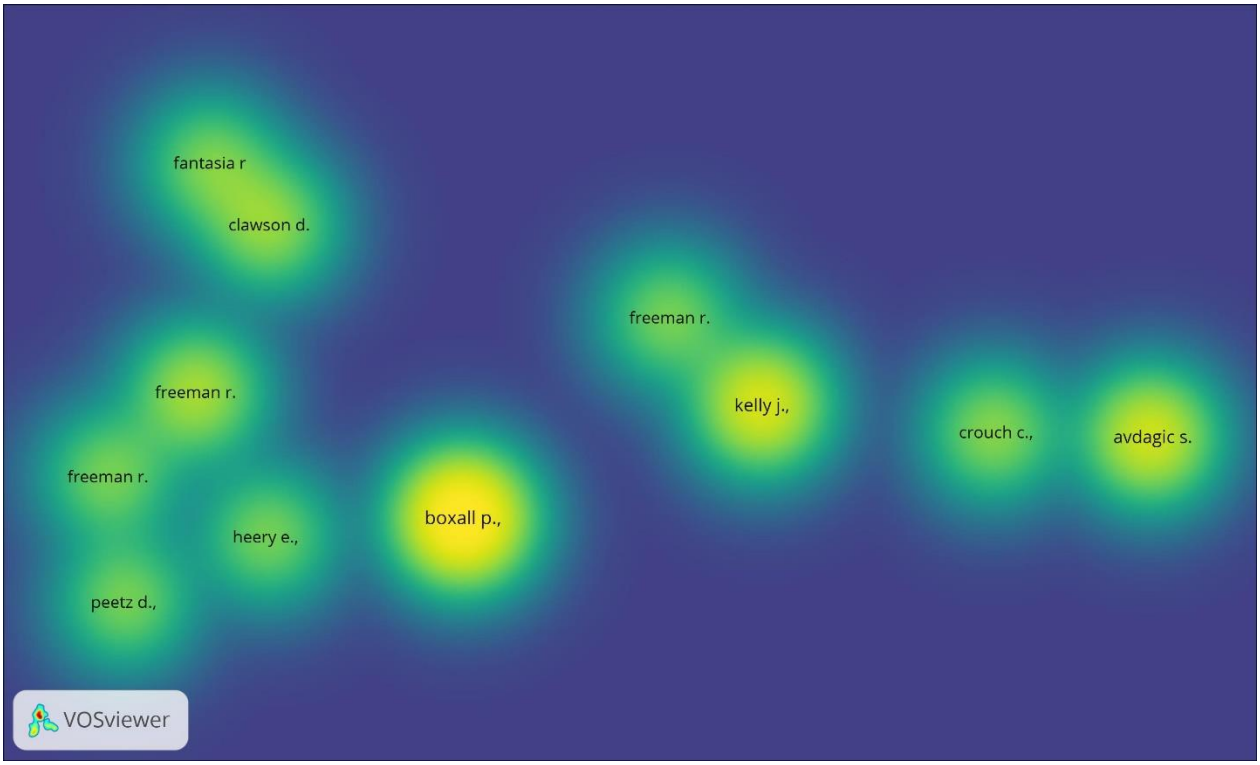


Figure 6.1. Co-citation analysis of the cited reference (Density)

Table 6. Top 10 Co-citation and Number of Citations

Rank	Publication Title and Author	Number of Citation
1	Strategy and trade union effectiveness in a neo-liberal environment (Boxall P. and Haynes P., 1997)	49
2	What do unions do? (Freeman R.B. and Medoff J., 1984)	30
3	Rethinking industrial relations: mobilization, collectivism, and long waves (Kelly J.E., 1998)	30
4	State-Labour Relations in East Central Europe: explaining variations in union effectiveness (Avdagic S., 2005)	28
5	The next upsurge: labor and the new social movements (Clawson D., 2003)	18
6	Industrial relations and European state traditions (Crouch C., 1993)	17
7	What workers want? (Freeman R.B. and Rogers J., 1999)	15
8	Hard work: remaking the American labor movement (Fantasia R. and Voss K., 2004)	15
9	Partnership versus organising: alternative futures for British trade unionism (Heery E., 2002)	15
10	Unions in a contrary world: the future of the Australian trade union movement (Peetz D., 1998)	15

3. CONCLUSION AND RECOMMENDATIONS

In this study, countries, journals, universities, and authors contributing to the literature on 'trade union effectiveness' were analysed. As of 16 May 2023, a total of 546 works published in English between 1979-2023 were reached through Scopus. Since only Scopus database was used in this study, detailed analyses on indexes such as SCI, SCI-Expanded and SSCI could not be made.

It has been concluded that the concept of union effectiveness, which has been discussed for the last 50 years and has maintained its importance both in labour relations and in the field of scientific studies, is more widely addressed in the industrial relations literature. In this context, the British Journal of Industrial Relations is the journal with the highest number of publications. It has been determined that journals that publish in the field of human resource management show a relatively lower interest in the issue. This is also reflected in the bibliometric matching analysis of the references provided by the researchers. However, the USA is the country with the highest number of publications. On the other hand, the University of Haifa ranks the first among the top 10 universities with the highest publication. There is an intense interaction between the USA-China-Israel-South Korea-Ireland in the cluster of the most cited countries in the co-authorship network. It was determined that the most prominent keywords in the studies were clustered in the words emotional commitment-employee turnover tendency-job satisfaction-organisational citizenship behaviour-organisational commitment-performance-trust. It has been found that the most directly cited author is Cohen A. On the other hand, in terms of the co-citation analysis of the references, it was determined that the most co-cited authors were Boxall P and Haynes P with ‘strategy and trade union effectiveness in a neo-liberal environment' as the title of the study.

In order for the concept of union effectiveness to spread from the industrial relations literature to wider research areas and to receive the necessary attention in the human resource management literature, it is thought that our study may be an incentive for the representatives of both schools to come together.

Recalling Gall and Fioriti's (2016) criticism of the scarcity of studies on the concept of union effectiveness, it can be said that a similar criticism applies to health management academics today. Figure 3 also shows that the concept of job satisfaction among employees is associated with unions in the literature. Considering the decreasing intensity of this issue in the

industrial relations literature in recent years, it is presented for the information of health management academics who continue their research in the field of organizational behaviour.

Conflict of Interest: The authors have no conflict of interest to declare.

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Revealing The COVID-19 Fear, Job Satisfaction and Intolerance of Uncertainty in Clinician Nurses During the Pandemic

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Research Article

Abstract

Aim: This descriptive study was conducted to determine the levels of fear of COVID-19, job satisfaction and intolerance of uncertainty of clinician nurses during the pandemic.
Methods: The study was conducted online to reach clinician nurses across various provinces in Turkey, primarily due to the ongoing pandemic. Data was gathered from a total of 220 clinician nurses who took part in the study from April 30 to August 1, 2022. The data collection tools employed in the study included a Descriptive Information Form, the COVID-19 Fear Scale, the Job Satisfaction Scale, and the Intolerance of Uncertainty Scale for Clinical Nurses.
Results: The study findings indicate that the nurses in the research exhibited a fear of COVID-19 at nearly a moderate level (with an average score of 16.33±5.82). Their job satisfaction was above

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the average range, with a mean score of 122.12±17.53. Additionally, the nurses displayed a moderate level of intolerance of uncertainty, as indicated by an average score of 38.55±8.97.
Conclusion: The study revealed a noteworthy positive correlation between nurses' fear of COVID-19 and their intolerance of uncertainty. However, no significant relationship was observed between job satisfaction and these factors. Nevertheless, it's important to note that variables such as age, education level, working style, and the voluntary choice of the nursing profession were found to exert significant influences on job satisfaction.

Keywords: COVID-19 Fear, Job Satisfaction, Intolerance Of Uncertainty

INTRODUCTION

The velocity of transformations during infectious disease outbreaks, such as the case exemplified by COVID-19, is well-documented to instigate a profound milieu of uncertainty, anxiety, and perturbation within the broader community (Chen et al., 2020). It is imperative to acknowledge that the uncertainty pervading the COVID-19 pandemic holds the potential to engender augmented trepidation and disquietude among individuals, particularly when it remains unmitigated and is apperceived as a pervasive hazard (Aydın and Özcan, 2021). However, it is paramount to recognize that the prevailing uncertainty, encompassing the enigmatic trajectory of the ailment, the loss of human life, the requisite practice of physical distancing, quarantine and isolation, and the imposition of stringent measures encroaching upon personal freedoms, collectively conspire to exert a deleterious impact upon the mental well-being of a considerable cross-section of the global populace. Concomitant with this pervasive uncertainty, individuals invariably undergo a state of heightened mental distress, a condition accentuated by the concomitant surge in fear and anxiety, thereby impeding their capacity to effectively navigate the labyrinthine terrain of this multifaceted crisis. (Giallonardo et al., 2020; Rettie and Daniels, 2021).

In this context, the domain of healthcare emerges as a pivotal arena of activity in the ongoing global tumult, with nurses constituting the predominant cohort within this workforce. Healthcare professionals, operating within settings of elevated vulnerability to the Coronavirus Disease-2019 (COVID-19), shoulder a prodigious burden that manifests deleterious ramifications upon their mental well-being, precipitated by the escalation of their professional obligations during this exigent epoch (Lai et al., 2019; Enli Tuncay et al., 2020). Furthermore, these health practitioners contend with not only the occupational hazards but also the ramifications of societal seclusion and discriminatory practices, both of which significantly compromise their job

satisfaction (Erkal-Aksoy and Koçak, 2020). In light of this multifaceted scenario, it becomes abundantly clear that ascertaining the levels of trepidation experienced by nurses and conducting empirical investigations aimed at ameliorating these concerns assume paramount significance. This academic endeavor stands as a linchpin for the preservation of their mental equilibrium and the delivery of superlative quality care (Vindegaard and Benros, 2020; Pakpour and Griffiths, 2020; Çayır Yılmaz and Uysal, 2021). Hence, the present study endeavors to dissect the impact of the COVID-19 pandemic on the apprehension levels, job satisfaction, and tolerance of uncertainty among healthcare practitioners. This scholarly inquiry holds profound implications, not only for the immediate present but also as a repository of knowledge that will inform the deployment of resolute solutions against potential future outbreaks.

1. RESEARCH METHODOLOGY

Type of Study: The present descriptive study was undertaken with the overarching objective of ascertaining the levels of fear pertaining to COVID-19, the job satisfaction experienced, and the degree of intolerance towards uncertainty among clinician nurses amidst the throes of the pandemic.

Population and Sample of the Study: The research was executed through the utilization of online platforms, specifically WhatsApp groups, email correspondence, and Instagram, in order to establish communication with clinician nurses hailing from diverse regions within the geographical expanse of Turkey. The data acquisition phase transpired within the time frame spanning from April 30 to August 1, 2022. The study's sample was derived from clinician nurses who, by means of online forms, affirmed their unequivocal willingness to partake in the investigation. For the collection of data, a pragmatic approach was adopted, namely the convenience sampling method, which represents a non-random sampling technique. This method was deemed appropriate in light of the prevailing risk associated with the transmission of COVID-19 infection. The study, in its purview, encompassed a cohort of 220 clinician nurses, all of whom possessed a minimum of 6 months of professional experience, were in possession of smartphones or computers, and proactively volunteered to engage in the research.

Data Collection: Introductory Information Form, COVID-19 Fear Scale, Job Satisfaction Scale for Clinical Nurses (JSS-CN) and Intolerance of Uncertainty Scale (IUS-12) were used to collect

the data.

Introductory Information Form: This form was prepared by the researchers based on the literature (Aydın and Özcan, 2021; Çayır Yılmaz and Uysal, 2021) and consisted of 14 questions to assess the sociodemographic characteristics of the nurses.

COVID-19 Fear Scale: The scale employed in this study, initially developed by Ahorsu et al. in 2020 and subsequently adapted to the Turkish context by Artan et al. in 2021, encompasses a singular dimension and is constituted of a total of 7 items. The scale adopts a 5-point Likert format, whereby respondents assign scores in the range of "1=Strongly disagree" to "5=Strongly agree" for each respective item. Consequently, the scale permits the derivation of a minimum score of 7 and a maximum score of 35, with higher scores signifying a heightened level of apprehension regarding COVID-19. It is noteworthy that the Cronbach's Alpha internal consistency coefficient of the original scale was established at 0.82. In the context of the present study, the Cronbach's Alpha coefficient was determined to be 0.88, thereby affirming the scale's commendable internal consistency and reliability.

Job Satisfaction Scale for Clinical Nurses (JSS-CN): The scale employed in this study, originally devised by Lee et al. in 2018 and subsequently subjected to Turkish validation and reliability assessments conducted by Çağan and Koca in 2020, comprises a comprehensive inventory of 33 items, distributed across six distinct sub-dimensions. Employing a 5-point Likert scale, respondents are required to indicate their agreement levels, ranging from "1 - Strongly disagree" to "5 - Strongly agree," for each individual item. The scale thus permits the accumulation of scores within the spectrum of 33 to 165, with elevated scores signifying a greater degree of job satisfaction. It is salient to note that in the original study conducted by Lee et al. (2018), the Cronbach's alpha coefficient was ascertained to be a robust 0.95. In the present study, the Cronbach's alpha coefficient was calculated to be 0.93, further attesting to the scale's commendable internal consistency and reliability.

Intolerance of Uncertainty Scale (IUS-12): The scale utilized in this investigation, originally formulated by Carleton et al. in 2007 and subsequently adapted to the Turkish context through the rigorous work of Sarıçam et al. in 2014, encompasses a total of 12 items, stratified into two distinct dimensions. Employing a 5-point Likert scale, respondents are tasked with rating their perceived suitability, varying from "1=Not at all suitable for me" to "5=Fully suitable for me," for each individual item. Consequently, the scale allows for the accumulation of scores within the range of

12 to 60, with higher scores serving as an indicator of an increased proclivity toward intolerance of uncertainty. It is noteworthy that the original scale, as established by Carleton et al. (2007), exhibited a commendable Cronbach's alpha value of 0.91. In the context of this study, the Cronbach's alpha coefficient was determined to be 0.88, thereby affirming the scale's notable internal consistency and reliability.

Data analysis: Data were evaluated using the SPSS (IBM SPSS Statistics 24) package program. Frequency tables and descriptive statistics were used to interpret the findings. The suitability of the data for normal distribution was investigated via Kolmogorov-Smirnov and/or Shapiro-Wilk-W tests. "Independent Sample-t" test (t-table value) was used to compare the measurement values of two independent groups for normally distributed data; "ANOVA" test (F-table value) statistics were used to compare the measurement values of three or more independent groups. For non-normally distributed data, "Mann-Whitney U" test (Z-table value) was used to compare the measurement values of two independent groups, and "Kruskall-Wallis H" test (χ^2-table value) statistics were used to compare three or more independent groups. The significance level was taken as $p<0.05$.

Ethical Issues: Prior to commencing this study, the requisite approvals were diligently secured, inclusive of the ethical clearance granted by the Ethics Committee (dated 07.04.2022, Protocol No: 2022/07-09), as well as permissions for employing the designated measurement instruments. In adherence to ethical standards, an initial consent option was thoughtfully incorporated at the outset of the questionnaire, enabling the participating nurses to explicitly indicate their willingness to partake in the study. Their informed consent was subsequently acquired through an online consent mechanism.

2. FINDINGS

Descriptive information of the participants is summarized in Table 1. The mean age of the 220 nurses who participated in the study was 35.33±11.48 (years) and 84 (38.2%) of them had been working for 1-5 years.

Table 1. Distribution of Nurses' Introductory Characteristics

Variable (N=220)	n	%
Age [$\bar{X} \pm$ S.S.→35.33±11.48 (year)]		
≤24	40	18.2
25-29	75	34.1
30-34	32	14.5
≥35	73	33.2
Gender		
Female	204	92.7
Male	16	7.3
Marital status		
Married	124	56.4
Single	96	43.6
Education level		
High school	7	3.2
Associate degree	21	9.5
Bachelor science	150	68.2
Graduate science	42	19.1
Income rate		
Income less than expenses	82	37.7
Income equals expense	112	50.9
Income more than expenses	25	11.4
Nursing profession experience duration		
6-12 months	15	6.8
1-5 years	84	38.2
6-10 years	36	16.4
11-15 years	39	17.7
>15 years	46	20.9

As detailed in Table 2, it is notable that a majority of the participants, specifically 139 individuals, representing 63.2% of the cohort, reported a prior incidence of COVID-19. Furthermore, a significant proportion, encompassing 193 participants or 87.7% of the sample, expressed disturbance arising from the prevailing uncertainties surrounding the pandemic. Additionally, a considerable number of respondents, specifically 185 individuals, corresponding to 84.1% of the participants, disclosed an adverse impact on their job satisfaction amidst the pandemic.

Table 2. Distribution of Nurses' Working Characteristics

Variable (N=220)	n	%
Worked unit		
Emergency	24	10.9
Policlinic	17	7.7
Service	99	45.0
Intensive care	38	17.3
Other	42	19.1
Affiliated institution		
State/educational research hospital	185	84.1

Private hospital	7	3.2
University Hospital	28	12.7
Worked duration on the unit		
Less than 1 month	5	2.3
1 month - 6 months	44	20.0
7 months – 1 year	24	10.9
More than 1 year	147	66.8
Type of working		
Daytime shift	63	28.6
Night shift	45	20.5
Day and night shift	112	50.9
Willingly choose the profession		
Yes	169	76.8
No	51	23.2
Have had COVID-19 before		
Yes	139	63.2
No	81	36.8
Disturbing pandemic uncertainty		
Yes	193	87.7
No	27	12.3
The negative impact of job satisfaction in the pandemic		
Yes		
No	185	84.1
	35	15.9

The distribution of total and sub-dimension scores obtained from the COVID-19 Fear Scale, JSS-CN and IUS scales is given in Table 3.

Table 3. Distribution of the Mean Scores of the Scales

Scale (N=220)		Mean	Sd	Median	Min.	Max.
COVID-19 fear scale		16.33	5.82	16.0	7.0	34.0
Job satisfaction scale for clinical nurses	*Institutional recognition and professional success*	31.67	6.25	32.0	16.0	45.0
	Contribution of the profession to individual maturation	23.29	3.99	24.0	6.0	30.0
	Respect and acceptance in interpersonal relationships	25.63	5.85	26.0	12.0	40.0
	Being aware of professional responsibility	17.13	2.07	16.5	7.0	20.0
	Visibility of professional competence	11.45	1.78	12.0	7.0	15.0
	Valuing the profession	12.97	1.77	13.0	4.0	15.0
	Total - JSS-CN	122.12	17.53	122.5	68.0	165.0
Intolerance of Uncertainty Scale	*Anxiety about the future*	23.77	5.23	23.0	8.0	35.0
	Prohibitive anxiety	14.78	4.81	15.0	5.0	25.0
	Total – IUS-12	38.55	8.97	38.0	13.0	60.0

The findings pertaining to the comparison of scale scores based on the descriptive characteristics of the clinician nurses are succinctly summarized in Table 4. Notably, a statistically significant

difference was observed in the scores on the job satisfaction scale among clinical nurses in relation to their age groups (F=2.696; p=0.047). Subsequent to the application of Tamhane pairwise comparisons, which take into account the variance heterogeneity, to pinpoint the source of this significant difference, it was established that a significant distinction existed between individuals in the age group of ≤24 and those within the 30-34 age bracket. In particular, it was discerned that the scores of individuals belonging to the ≤24 age group on the job satisfaction scale for clinical nurses were markedly higher than those recorded for their counterparts within the 30-34 age group.

A notable statistical dissimilarity was detected in the job satisfaction scale scores pertaining to clinical nurses, contingent upon their educational levels (F=2.908; p=0.036). Employing Tukey pairwise comparisons, while accounting for the homogeneity of variances, to delineate the source of this significant disparity, it was ascertained that a significant distinction emerged between clinicians holding associate's degrees and those with bachelor's degrees. More specifically, the job satisfaction scale scores among clinical nurses who held associate's degrees were markedly higher in comparison to their counterparts with bachelor's degrees.

Table 4. Comparison of Scale Scores According to Nurses' Introductory Characteristics

Variable (N=220)	n	COVID-19 fear scale		Intolerance of Uncertainty Scale		Job satisfaction scale for clinical nurses	
		$\bar{X} \pm Sd$	Median [IQR]	$\bar{X} \pm Sd$	Median [IQR]	$\bar{X} \pm Sd$	Median [IQR]
Age							
≤24 (1)	40	16.28±6.18	15.5 [7.8]	38.30±10.14	38.0 [16.8]	126.85±11.38	125.5 [13.0]
25-29 (2)	75	15.76±4.97	15.0 [7.0]	37.92±8.95	37.0 [13.0]	120.21±16.89	120.0 [25.0]
30-34 (3)	32	14.84±5.39	15.0 [9.5]	39.88±9.11	38.0 [9.5]	116.50±18.14	114.5 [17.8]
≥35 (4)	73	17.60±6.43	18.0 [9.0]	38.77±8.83	39.0 [11.5]	123.97±19.89	125.0 [27.5]
Statistical analysis*		χ^2=5.063		F=0.378		F=2.696	
Possibility		p=0.167		p=0.769		**p=0.047**	
Difference						**[1-3]**	
Gender							
Female	204	16.48±5.84	16.0 [7.0]	38.69±8.98	38.0 [12.8]	122.28±16.96	123.0 [21.8]
Male	16	14.50±5.33	14.5 [9.0]	36.88±8.88	35.0 [12.8]	120.19±24.17	115.0 [33.5]
Statistical analysis		Z=-1.192		t=0.777		t=0.340	
Possibility		p=0.233		p=0.438		p=0.738	
Marital status							
Married	124	16.44±5.97	16.0 [7.0]	38.38±8.71	37.5 [12.0]	123.20±19.17	121.0 [25.6]
Single	96	16.19±5.64	15.0 [7.0]	38.78±9.31	39.0 [13.5]	120.74±15.14	123.0 [21.5]
Statistical analysis		Z=-0.414		t=-0.329		t=1.033	
Possibility		p=0.769		p=0.742		p=0.303	
Education level							
High school (1)	7	16.14±4.91	14.0 [6.0]	39.29±3.90	39.0 [6.0]	124.00±28.79	125.0 [28.0]
Associate degree (2)	21	15.95±6.16	15.0 [8.0]	39.24±7.67	38.0 [8.5]	131.05±20.22	127.0 [34.5]
Bachelor science (3)	150	16.55±5.69	16.0 [9.0]	38.35±9.42	38.5 [13.0]	120.18±15.39	121.0 [23.0]
Graduate science (4)	42	15.79±6.34	14.5 [6.5]	38.83±8.69	37.0 [13.5]	124.98±19.87	126.5 [28.5]
Statistical analysis		χ^2=0.958		F=0.095		F=2.908	

Possibility Difference		p=0.811		p=0.962		**p=0.036 [2-3]**	
Income rate							
Income less than expenses	82	16.35±5.64	16.0 [8.0]	39.38±9.48	39.0 [12.0]	122.12±20.24	121.0 [31.0]
Income equals expense	112	15.96±5.86	15.0 [7.5]	38.05±8.17	38.0 [13.0]	122.55±14.94	123.0 [18.8]
Income more than expenses	25	17.92±6.15	17.0 [8.0]	38.08±10.65	37.0 [17.5]	120.24±19.16	124.0 [25.0]
Statistical analysis		χ^2=2.297		F=0.554		χ^2=0.358	
Possibility		p=0.317		p=0.576		p=0.836	

* "Independent Sample-t" test (t-table value) for comparison of measurement values of two independent groups in data with normal distribution; "ANOVA" test (F-table value) statistics were used to compare the measurement values of three or more independent groups. "Mann-Whitney U" test (Z-table value) for comparison of measurement values of two independent groups in non-normally distributed data; "Kruskall-Wallis H" test statistics (χ2-table value) were used to compare three or more independent groups.

Table 5 provides a succinct summary of the findings related to the comparison of specific work-related characteristics of the clinical nurses with their corresponding scale scores. Notably, a statistically significant difference was observed in the job satisfaction scale scores among clinical nurses, contingent upon their work schedules (F=4.708; p=0.010). Utilizing Tukey pairwise comparisons, while ensuring the homogeneity of variances, to identify the source of this significant distinction, it was established that a marked difference existed exclusively between the job satisfaction scale scores of nurses working only during daytime and those who were exclusively on-call workers. Specifically, the job satisfaction scale scores for clinical nurses who worked solely during daytime hours were significantly higher in comparison to their counterparts who were exclusively on-call workers.

Significant findings have been unearthed in relation to the job satisfaction scale scores among clinical nurses based on their willingness in choosing the profession (Z=-2.091; p=0.037). It was conclusively determined that the job satisfaction scale scores of clinical nurses who actively and willingly chose the profession were markedly higher than those who did not choose the profession of their own volition.

Furthermore, an important statistical discrepancy emerged concerning the scores on the COVID-19 Fear Scale, hinging upon the degree of disturbance caused by the pandemic's inherent uncertainties (Z=-4.254; p=0.000). This analysis highlighted that individuals who reported a high level of disturbance due to the pandemic's uncertainties exhibited significantly elevated scores on the COVID-19 Fear Scale in contrast to those who reported a lower level of disturbance.

Equally noteworthy, a significant distinction was noted regarding the scores on the COVID-19 Fear Scale with regard to whether job satisfaction had been adversely affected by the

pandemic (Z=-3.690; p=0.000). It was discerned that individuals whose job satisfaction had been negatively impacted by the pandemic displayed significantly higher scores on the COVID-19 Fear Scale in comparison to those whose job satisfaction remained unscathed.

A statistically significant distinction was ascertained in the scores on the Intolerance of Uncertainty Scale, contingent upon whether job satisfaction had been adversely impacted by the pandemic (t=2.958; p=0.003). This analysis revealed that individuals whose job satisfaction had experienced a negative impact due to the pandemic exhibited notably higher scores on the Intolerance of Uncertainty Scale in comparison to those whose job satisfaction remained unaffected by the pandemic.

Table 5. Comparison of Scale Scores with Some Working Characteristics of Nurses

Variable (N=220)	n	COVID-19 fear scale		Intolerance of Uncertainty Scale		Job satisfaction scale for clinical nurses	
		$\bar{X} \pm Sd$	Median [IQR]	$\bar{X} \pm Sd$	Median [IQR]	$\bar{X} \pm Sd$	Median [IQR]
Type of working							
Daytime shift (1)	63	16.38±6.65	16.0 [8.0]	38.30±8.25	38.0 [11.0]	127.14±18.70	126.0 [24.0]
Night shift (2)	45	15.33±5.61	14.0 [8.0]	38.22±8.91	37.0 [11.5]	117.09±16.37	119.0 [20.0]
Day and night shift (3)	112	16.71±5.39	16.0 [7.0]	38.83±9.43	39.0 [14.5]	121.33±16.72	121.0 [23.8]
Statistical analysis *		χ^2=2.240		F=0.108		F=4.708	
Possibility		p=0.326		p=0.898		**p=0.010**	
Difference						**[1-2]**	
Willingly choose the profession	169	16.33±5.83	15.0 [8.0]	38.40±9.15	38.0 [13.0]	123.37±17.82	124.0 [23.5]
Yes	51	16.35±5.82	16.0 [7.0]	39.06±8.38	40.0 [9.0]	118.02±16.03	117.0 [19.0]
No							
Statistical analysis		Z=-0.130		t=-0.457		Z=-2.091	
Possibility		p=0.897		p=0.648		**p=0.037**	
Have had COVID-19 before	139	15.97±5.92	15.0 [8.0]	38.59±9.02	38.0 [12.0]	122.16±17.41	122.0 [24.0]
Yes	81	16.94±5.63	17.0 [6.5]	38.49±8.92	38.0 [12.5]	122.08±17.84	124.0 [21.5]
No							
Statistical analysis		Z=-1.296		t=0.077		Z=-0.230	
Possibility		p=0.195		p=0.939		p=0.818	
Disturbing pandemic uncertainty	193	16.92±5.76	16.0 [7.5]	38.94±8.90	39.0 [12.0]	121.83±17.67	122.0 [24.0]
Yes	27	12.14±4.35	12.0 [6.0]	35.78±9.12	36.0 [11.0]	124.22±16.61	125.0 [23.0]
No							
Statistical analysis		Z=-4.254		t=1.726		t=-0.662	
Possibility		**p=0.000**		p=0.086		p=0.509	
The negative impact of job satisfaction in the pandemic	185	16.95±5.69	16.0 [6.5]	39.32±8.83	39.0 [11.5]	121.79±17.75	122.0 [24.0]
Yes	35	13.03±5.41	12.0 [8.0]	34.51±8.70	34.0 [11.0]	123.89±16.43	125.0 [22.0]
No							
Statistical analysis		Z=-3.690		t=2.958		t=-0.646	
Possibility		**p=0.000**		**p=0.003**		p=0.519	

*In the data with normal distribution, "Independent Sample-t" test (t-table value) is used to compare the measurement values of two independent groups; “ANOVA” test (F-table value) statistics were used to compare the measurement values of three or more independent groups. “Mann-Whitney U” test (Z-table value) when comparing the measurement values of two independent groups in data that does not have a normal distribution; “Kruskall-Wallis H” test (χ2-table value) statistics were used to compare three or more independent groups

It is noteworthy that, although not explicitly presented in the table, no statistically significant differences were observed with regard to scale scores based on factors such as the duration of employment, the specific unit of employment, the employing institution, and the duration of employment within the unit.

Additionally, it is important to highlight that, while not featured in the table, a positive albeit very weak and statistically significant correlation was identified between the Fear of COVID-19 Scale and the Intolerance of Uncertainty Scale ($r=0.172$; $p=0.011$). This correlation implies that as scores on the Intolerance of Uncertainty Scale increase, there is a corresponding increase in scores on the Fear of COVID-19 Scale, and conversely, as scores on the Intolerance of Uncertainty Scale decrease, there is a corresponding decrease in scores on the Fear of COVID-19 Scale.

3. DISCUSSION

In this investigatory undertaking, which was executed with the express objective of ascertaining the gradations of apprehension pertaining to COVID-19, occupational contentment, and the degree of intolerance toward ambiguity among clinician nurses in the throes of the pandemic, the constituent body of this examination comprises nurse practitioners laboring across diverse administrative divisions and jurisdictions. It is incontrovertible that the COVID-19 pandemic begets a litany of adversities besetting healthcare personnel, encompassing but not limited to psychological manifestations such as anxiety, despondency, trepidation, and a conspicuous lack of patience in the face of nebulous circumstances. It is with great perspicuity that we recognize nurses as a demographic disproportionately afflicted by the pandemic's deleterious effects, principally due to their unswerving proximity to the infirm (Chen et al., 2020; Hu et al., 2020; Kang et al., 2020; Saleem et al., 2020).

The nurses in the present study had an average COVID-19 Fear Scale score of 16.33±5.82, indicating they experienced a moderate level of fear. In line with our research, several studies (Çayır Yılmaz and Uysal, 2021; Dymecka et al., 2021; Abid et al., 2021; Labrague and Janet de los Santos, 2021; Gritsenko et al., 2021) in the literature have reported similar findings of moderate fear among nurses. Some studies, particularly during the early stages of the pandemic, also showed

that nurses experienced high levels of fear (Hu et al., 2020; Sasaki et al., 2020). While it was hypothesized that variables like age, gender, marital status, and education level might be related to COVID-19 fear among nurses, our study did not find any significant associations. This aligns with the observations in the study by Labraque and de los Santos (2021), where no significant relationships were found between gender, marital status, and education level, and fear of COVID-19. However, the majority of studies have reported associations between variables such as age, gender, education level, marital status, having children, and work style (part-time/full-time) and COVID-19 fear (Labraque and de los Santos, 2021; Moussa et al., 2021; Al Sulais et al., 2020; Huang et al., 2020; Fu et al., 2021).

Research in the literature consistently points to the notion that uncertainty is closely linked to feelings of fear and anxiety (Sarı and Dağ, 2009). These studies further highlight that individuals with a low tolerance for uncertainty tend to encounter greater challenges in adapting, experience heightened anxiety, and struggle when faced with difficulties and uncertain situations in their daily lives (Boelen et al., 2016; Carleton et al., 2012). In our study, the average score on the Nurses' Intolerance of Uncertainty Scale was 38.55±8.97, indicating a moderate level of intolerance to uncertainty. Notably, we found that nurses who expressed discomfort with uncertainty during the pandemic tended to score significantly higher on the COVID-19 Fear Scale. This observation was further supported by the fact that as nurses' scores on the COVID-19 scale increased, their intolerance of uncertainty scale scores also rose. Studies conducted by Duman (2020) and Bakioğlu et al. (2020) have both revealed a positive association between fear of COVID-19 and intolerance of uncertainty. While there are numerous studies in the literature measuring stress and anxiety levels among healthcare workers during the pandemic, Özdemir et al. (2021) identified a positive correlation between stress levels and intolerance of uncertainty scores in healthcare workers during the pandemic. Another study found that healthcare workers with high intolerance of uncertainty experienced significantly more anxiety during the COVID-19 pandemic (Smith et al., 2020). In this context, it can be inferred that uncertainty significantly impacted the fear, anxiety, and stress levels experienced by healthcare workers during the pandemic.

In this present study, the nurses' job satisfaction was found to have an average score of 122.12 with a standard deviation of 17.53. This suggests that nurses' job satisfaction is not low but rather above the average range. Consistently, a study by Zakiyah and her colleagues in 2021 also noticed that most nurses had moderate to high job satisfaction. Furthermore, a different study

conducted by Giménez-Espert and others in 2020 reported that nurses generally experienced high levels of job satisfaction. In our own investigation, we observed that nurses who believed the pandemic had a negative impact on their job satisfaction exhibited heightened concerns related to COVID-19. Labrague and Santos (2021) also discovered a significant decrease in job satisfaction among individuals with a fear of COVID-19 in their study. Likewise, in another study exploring the psychological resilience, intent to leave their profession, and job satisfaction among nurses and midwives, it was noted that those with strong psychological resilience also tended to have high job satisfaction. Interestingly, a quarter of nurses and midwives expressed an intention to leave their positions during the pandemic, and they reported low job satisfaction in a study by Piotrowski et al. in 2022. However, our study did not find a correlation between the fear of COVID-19 and job satisfaction. Instead, we uncovered a significant connection between nurses' age, educational level, working style, their career choice motivation, and their job satisfaction. Similarly, existing literature has documented a significant relationship between nurses' age and education (Zakiyah et al., 2021) and their working style (Labrague and Janet de los Santos, 2021) and their inclination to leave their jobs during the pandemic. Additionally, research has shown a notable link between nurses' working style and their overall stress levels and stress related to COVID-19 (Said and El-Shafel, 2021).

Our research revealed that nurses exhibited a moderate level of intolerance to uncertainty. Moreover, we found that nurses who believed their job satisfaction had been negatively impacted by the pandemic had significantly higher scores on the intolerance of uncertainty scale. Similarly, a related study reported that individuals who expressed regret about their choice of the nursing and midwifery profession and faced difficulties in their personal, family, and professional lives due to COVID-19 also had significantly higher intolerance of uncertainty scores (Erkal-Aksoy and Koçak, 2020). In the same study, it was noted that 62.4% of midwives and nurses struggled to cope with the uncertain circumstances during the pandemic, with 42.6% expressing a desire for psychological support and 11.8% expressing disillusionment with their profession. At the onset of the pandemic, healthcare workers, particularly in the context of unclear control measures and heightened uncertainty about the disease, exhibited higher levels of intolerance to uncertainty in studies conducted during that period. However, in Turkey, as in the rest of the world, intolerance to uncertainty decreased as more information about the disease's progression, the establishment of

preventive measures and treatment protocols, improved pandemic management, widespread vaccination campaigns, and a decrease in the number of cases became evident.

4. CONCLUSION AND RECOMMENDATIONS

The global impact of COVID-19 initially instilled great fear and uncertainty in people worldwide, particularly in nurses who stood at the forefront of the battle against this global pandemic among healthcare professionals. However, as the pandemic has become more manageable compared to its outset, it's evident that nurses no longer harbor significant fear of COVID-19. Instead, what seems to affect their fear of COVID-19 is their level of intolerance to uncertainty. In the current phase of the pandemic, the decrease in the number of COVID-19 patients, the reduction of overtime and excessive workloads, the return of working conditions to pre-pandemic standards, and improvements in healthcare workers' salaries have had a positive impact on the job satisfaction of nurses. Nonetheless, it's important to note that variables such as age, education level, working style, and the voluntary choice of the nursing profession still exert influence over job satisfaction. In light of this, it's crucial to implement a program that regularly shares the most recent information about the pandemic's progression with nurses. Providing training sessions designed for this purpose and offering support through healthcare policies can significantly contribute to reducing both the fear of COVID-19 and nurses' intolerance to uncertainty. Ultimately, this can help mitigate the negative effects on job satisfaction and the attrition of nurses from the profession.This study has two main limitations. Firstly, data collection was conducted online instead of through face-to-face interviews, which may have limited the depth of responses. Secondly, the response rates from healthcare professionals were lower during the pandemic, impacting the study's sample size.

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JHMT Editorial

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The Role and Importance of Ayurveda in Health Tourism in India

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Abstract

Ayurveda is an art of healing that has been run through India for over five millennium. It's a science of rejuvenation, that has gained a lots of world attraction over the years. In today's scenario there is a need to give a right track to our mind and body and hence requires health tourism, health checks visiting the attractions, identical with the words like health tourism, remedial journey or inclusive healthcare and became a universal concept gaining importance. Through which different destinations of India gets set up to provide various ayurvedic techniques to achieve good health and healthy lifestyle. As tourism connects two different processes, it's a way to learn, experience and share. So, travelling within the elements of nature by using proper ayurvedic herbs, oils and food that not only boosts immunity but also cures diseases slowly and gradually and as well as provide right knowledge to visitors that will create awareness regarding nature and spreads importance of our ancient ayurvedic techniques to everyone's mind and body. Therefore, this study is connected to health tourism describing how Ayurveda is helpful for healthy lifestyle. Through this research paper, researcher is trying to point out the role and importance of Ayurveda in health tourism in India.

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Keywords: Health tourism, Ayurveda, Health

Ayurveda

Ayurveda 'literally means —Science of Life'. Ayurveda is evolved from the assorted Vedic hymns rooted in. It's a fundamental philosophy about life, disease and health. The Charka Samhita and Sushruta Samhita developed around 2500 BC, are the most treatises of Ayurveda fully available today. Consistent with Ayurveda, fitness is taken into account a precondition to get life i.e., Dharma, Artha, Kama and Moksha. Ayurveda takes an integrated view of the physical, mental, spiritual and social aspects of group of people and about the inter relationships among these aspects. The Ayurveda is mentioned by logo of leaves it's associated with the herbs and causes less side effects, than allopathy it's a slow curing process. Ayurveda believes that man is influenced to the nice extent by his environment which affects his health status too. These schedules incorporate eating regimens, propensities, and an overall mentality towards life. It conveys emphasize on the underwriting of positive prosperity and prevention of curse. Ayurveda, the cardinal emphasis is stowed upon the pasture than the seed. Ayurveda seeks to handle these issues with a workable proposition providing practical guide to our life regarding the arrangement of food, body work, relief and work to realise balance of body, mind and soul so on weathering the deleterious environmental impacts and lifestyle diseases. To forestall diseases by balancing body, mind, soul and environment is that the motto of each Ayurvedic hospitals and centres. Being a more supported therapeutic framework, Ayurveda gives an all encompassing system to having a sound existence.

Ayurveda isn't only about good bodily structure but it's a healing that assures worldwide robustness. The ayurvedic plants and oils which are used for the treatments are of boundless medicinal worth which is mentioned within the vedic works on Ayurveda. The antiquity of Ayurveda which belongs to Vedic period obviously states the rules to conserve the wellbeing of the people and therefore the devices for curing the diseases by using different remedial measures like massages, medicines from plants, yoga, meditation, diet control and workouts. The foremost popular objective of this Ayurvedic healing is that the removal of noxious features from the

physique and thus the human structure acquires better immunity. This process will rejuvenate the mind, body and soul.

Ayurveda having a solid philosophical and experimental basis and is that the oldest traditionally Indian and Chinese medicine (Patwardhan et al. 2005: 465), could be a combination of two words ayur (life) and veda (science) which suggests "science of life". Ayurveda focuses on bringing harmony and balance altogether areas of life including mind, body and soul (Parasuraman et al. 2014: 73). Ayurveda is that the traditional Indian system of medication applied not only to heal diseases but also to stop the occurrence of diseases. This method of treatment provides information about ethnic folklore practices and traditional aspects of therapeutically important medicines, because it's a holistic treatment method to forestall the disease cause and to create people more conscious about the formation of disease. The idea of this method isn't only treating the disease, but also treating the patient as an entire. Bioactive compounds derived from different medicinal plants have a crucial role within the management and improvement of human health. These herbs function the foremost valuable resource for the treatment of the many diseases (Mukherjee et al. 2017: 10-11).

Health Tourism

Health tourism is fastest growing sector worldwide. For being healthy, getting peaceful mind and achieving healthy life style, a tourist travel one place to a different place. With the arrival of globalization and culture of consumerism, people begin to jaunt make use of big variety of alternatives that bring satisfaction and healthy living (Jena, &Manoj K 2014). Now a day's tourists are more sensible of the worth of health. They're privy to condition, purity of mind and standard life style. A vacationer visits at a travel industry locations for relaxation and entertainment (Chand Mohinder 2004).

Health tourism is an emerging sector those tourism developed by the competing tourism promoting countries so as to draw in tourists traveling with the premier goal of getting healthcare.

Health tourism includes two terms i.e. healthcare and tourism. Tourism attractions provide peace of mind and relaxation (Walker John R. 2011). Health tourism is transforming a preferred kind of

leisure and vacationing because it covers a broad scope of health services, medical services and mixed relaxation methods, entertaining and leisure along with well-being and healthcare.

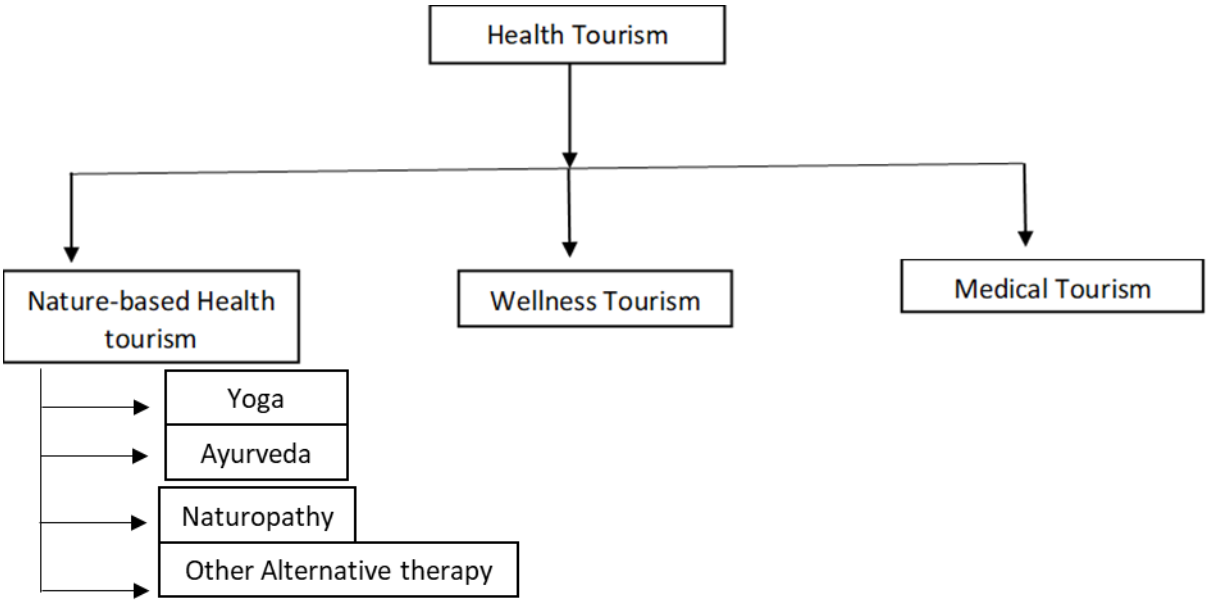

Figure 1

In the above given diagram, it explains that health tourism includes three different areas for being health and to take care and cure one's health. In nature-based health tourism, involves the natural resources and nature-based setting to perform health related activities to care of health. Wellness tourism involves the wellness based activities for good health and in Medical tourism, tourists attains scientific treatments such as transplants and surgeries to cure their health related problems.

Review of Literature

Padmasani and Remya (2015) considered the elements which impact the travellers in Ayurvedic medical services communities. The foremost effective factors within the field of destination are quality of services, opportunities, attractiveness, benefits and promotion.

Devi and Singh (2019) explored the challenges and opportunities for promoting Ayurveda in the health tourism sector in India. The review highlighted the need for standardization of Ayurvedic treatments, the development of international accreditation standards, and the integration of Ayurvedic facilities with modern medical facilities to attract more international tourists.

Bulsara and Yadav (2018) Users are nowadays practical oriented and that they understand that Ayurveda the standard medicine treat the body as a full instead of quick relief but rarely people use modern medicine in critical situations.

Acharya (2020) explained that Ayurveda has enough opportunities as a precautionary measure for fighting against COVID 19 pandemic. So as to practise ayurveda as restorative and deterrent facet scientific studies related to it and its principles are desirable. WHO also recommended these varieties of activities at the time of epidemic diseases.

Katoch et al (2017) target different prospects of government rules and ingenuities for the expansion of traditional Ayurveda. Indian System of Medicine which is of late known as AYUSH was established by the government of India for the protection and promotion of Ayurveda and other traditional methods of treatments. Different regulatory authorities and development agencies are established under AYUSH for the advancement of ayurveda.

Singh and Pandey (2019) investigated the factors that influence the choice of Ayurvedic treatments among international tourists. The study found that the primary factors that attract tourists to Ayurveda are the natural and holistic approach of Ayurveda, the absence of side effects, and the affordability of treatments compared to western medicine.

Current Analysis – 1 (Theoritical)

Extent of Health Tourism and present status in India

Health Tourism holds immense hope. The Indian systems of medicines, i.e. Ayurveda, Yoga, Panchakarma, Rejuvenation Therapy, Spa, Naturopathy etc. among are the foremost Ancient systems of medical treatment, of the planet. India can give Medical and Health notice close to intercontinental Centres as a basic part. Most of the foreign tourists are at the instant impending to India only. Paradigm by the side of comparatively low cost. Southern States of India, particularly Kerala, has private Health Tourism. Health seeing the sights has also been prosperity in India. On the whole of the hotels/resorts are springing up with the Ayurveda. For Ayurveda. The leading tour operators have included Ayurveda in their brochures. Not only Kerala but various places which are within the lap of nature should start attracting tourists by being with nature and curing their health with the resources of nature. India is playing a important role in promoting health

tourism on the premise of nature based aspects of environment to achieve health, happiness and harmony.

Current Analysis – 2

Role of Ayurveda in Health Tourism

Tourism is that the combination of health and phenomena. One has to travel to learn, to experience, to present, and to induce one with the elements of nature. Natural phenomenon helps to achieve the goals of discipline and physiological condition and to develop one's life we need to move towards and live parallelly with nature. Nature based techniques for tourists helps in combining tourism and health together. Out of which Ayurveda is one in every aspect that helps in caring one's health by using the herbs, yogic food practices etc. As it may be a slow process than other treatments but one has to implement on each day to stop ourselves from the diseases. The treatment under Ayurveda assists with reviving body and psyche. One can take holiday and revive his body and brain going through Ayurveda treatment Not only health tourists but also tourists coming with another purposes are also get fascinated by Ayurveda.

Research Methodology

For this theoretical research paper researcher has collected the information through secondary data such as books, research papers, magazines etc. As well as research shows the relationship between ayurveda and health tourism through her personal thinking.

Findings, Result and Recommendation

Natural resources is the basic life enhancing resource in which one has to move parallelly with it by learning the rules of nature, it's one of the form ayurveda that helps n balancing the three doshas (Vatta, Pitta, Kapha) and tourism is the synonym of the development of human beings therefore ayurveda in health tourism attract one's mind and provides the holistic development to tourists. That's why the use of yoga, ayurveda, naturopathy, activities in natural environment and ancient techniques of being healthy in nature-based health tourism will be very effective for the tourists.

Conclusion

This study aimed to bring awareness to all individuals and tourists that the relation of Ayurveda and Health Tourism is that the potential way for getting connected to one's own life along with society, nation and world and attending best outcome of tourism. Role and future prospects of Ayurveda in health tourism in bringing attention across the globe. India has rapidly emerged as a health tourism destination, thanks to its ancient healing practices, alternative therapies, indigenous healing systems and medicinal practices like Ayurveda, Naturopathy, and Pranic Healing. India can also create Health-Hubs to draw in more tourists for wellness.

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