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Contents

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Indexes of our journal

DOAJ (since 2018)
ESCI (since 2017)
Scopus (since 2017)
EBSCO Academic Search Complete (since 2007)
EBSCO TOC Premier (since 2007)
Turkey Citation Index (since 2000)
PsycINFO/ Psycological Abstracts (since 2004)
TUBITAK's Turkish Medical Index (since 2000)
Google Scholar (since 1998)
Index Scholar (since 2007)
Academic journal database (since 2000)
Turkish Medline (since 2000)
Turkish Psychiatry Index (since 2000)
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Is peace and freedom possible?

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The failed intervention in Afghanistan, along with the wars in Iraq, Libya, and Syria, has once again revealed the truth: military power leads to destruction; it neither brings peace and freedom nor democracy. On December 8, 2024, the 61-year-old Ba'ath regime in Syria collapsed, and Bashar al-Assad's rule ended. However, problems regarding fundamental rights, freedoms, and humanitarian conditions have continued to grow.

It is truly strange how people can be convinced to engage in war, despite the fact that war leads to the loss of lives and other cherished values. Although it is hard to accept, it seems that without some kind of intrinsic willingness, the apparatus of the state could not compel people into such compliance, even with all its coercive power (1). This indicates that most of us have a strong and easily triggered inclination toward destruction, particularly self-destruction.

According to Freud, civilization cannot sustain itself without restraining drives (2). Without some form of liberation from these drives, sons would kill their fathers; polymorphous perversion and incest would ruin every family; mothers and daughters would be in constant conflict; jealousy, envy, and greed would be omnipresent; minorities would be scapegoated; economic classes would remain in perpetual conflict; and nations would be locked in endless war. Like many other 19th-century intellectuals, Freud was not overly optimistic that education and scientific progress alone would quickly build a new, free, and civilized world. Nevertheless, the massive catastrophe caused by the Great War deeply affected him. He had hoped that science, art, culture, and even studies of the mind to some extent would contribute to a brighter future, but when the wave of destruction that engulfed the world subsided four years later, no trace of his optimism remained.

Seven years before the Second World War, a correspondence titled "Why War?" ("Warum Krieg?") took place between Freud and Einstein (3). This exchange began with a letter from Albert Einstein in which he sought Freud's views on the origins of war and ways to prevent it. In his response, Freud referred to the two fundamental drives he identified in his work Beyond the Pleasure Principle (4): Eros (the life drive) and Thanatos (the death drive). Eros represents tendencies toward love, unity, and the preservation of life, while Thanatos embodies tendencies toward destruction, death, and aggression. Freud argued that war is an expression of the death drive on a societal level, making its complete elimination difficult, if not impossible. However, factors like the progress of civilization and the strengthening of legal systems could reduce the likelihood of war. He viewed the life drive as a unifying force among people and argued that supporting this tendency could mitigate the impact of war. Processes that foster education, intercultural engagement, and the cultivation of mutual understanding among individuals present a viable foun-

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dation for envisioning a more peaceful global order. Nonetheless, Freud remained skeptical about the possibility of completely suppressing humanity's destructive tendencies. While individuals can restrain their aggression on a personal level, this aggression often erupts in societal contexts through war. In the Why War? correspondence, Freud posited that war is not solely driven by political and economic causes but also closely tied to the impulsive essence of human nature.

Indeed, although the majority of individuals regard war as a disgraceful act unworthy of humanity, characterized by its senseless destruction of lives and human creations, the undeniable reality remains that humanity has yet to succeed in eradicating the phenomenon of war (1). In the absence of a significant qualitative transformation in psychic apparatus, cultural progression, and a more expansive and profound recognition of this reality, the prospect of reducing the likelihood of war appears to be an almost utopian aspiration. In a passage which portrays mind as little more than a mechanistic pleasure-seeker, Freud argues that (5):

all thinking is no more than a circuitous path from the memory of a satisfaction (a memory which has been adopted as a purposive idea) to an identical cathexis of the same memory which it is hoped to obtain once more through an intermediate stage of motor experiences.

Here, there is little room for an autonomous consciousness, for the most that consciousness would seem capable of is mediating between drives and their objects.

In line with this conceptualization, there is his famous horse and rider analogy. This metaphorical allusion to the roles played by various parts of the psychic apparatus appears more than once in Freud's writings, and each time the ego is equated with the rider, who, "if he is not to be parted from his horse, is obliged to guide it where it wants to go; so in the same way the ego is in the habit of transforming the id's will into action as if it were its own" (6). The judgment is damning and the implication clear: the ego is held hostage by powers originating elsewhere. Moreover, the ego is "not only a helper to the Id; it is also a submissive slave who courts his master's love" (6). In sum, Freud's position is that "the ego is not master in its own house" (7).

In the New Introductory Lectures on Psycho-Analysis, it reads as follows (8):

Thus the ego, driven by the id, confined by the super-ego, repulsed by reality, struggles to master its economic task of bringing about harmony among the forces and influences working in and upon it; and we can understand how it is that so often we cannot suppress a cry; "Life is not easy!" If the ego is obliged to admit its weakness, it breaks out in anxiety – realistic anxiety regarding the external world, moral anxiety regarding the super-ego, and neurotic anxiety regarding the strength of the passions in the id.

If we reduce Freudian psychology to only his words quoted previously, it could be claimed that there is no way to see the ego as an autonomous mental construct with agency. Ego is neither able to control passion nor the external world in the name of reason or freedom. Spinoza, arguing along lines similar to Freud's, held that human beings believe themselves to be free only because they are unconscious of the causes whereby their actions are determined (9).

The German psychoanalyst Mitscherlich (10) highlights two factors that have historically impeded humanity's ability to develop more peaceful attitudes: the first is the easily inflamed hostile emotions, and the second is an inextinguishable form of stupidity. According to Mitscherlich, the stupidity he refers to is not innate but rather a meticulously cultivated one, taught and instilled through the reinforcement of prejudices. When an education system that encourages and legitimizes hostility proves effective, prejudices take the place of critical thinking and reasoning, thereby fueling this "man-made" stupidity. Such blindness feeds aggression, reviving the urge to find a scapegoat, and once individuals externalize all their aggression, perceiving it solely as emanating from others, no barriers remain to prevent them from acting on their hostility (11).

The archaic forms of personal conscience prohibit us from critically questioning certain religious taboos (1). Consequently, societies repeatedly establish systems comprised of collectively accepted commandments, thereby creating primitive “cultural superegos” that are exempt from critical evaluation. These moral principles and prohibitions, endowed with an unquestionable quality, continue to persist even today. Regardless of their short-term benefits, such archaic methods are ultimately doomed to failure, as they do not teach us how to regulate our drives through "recognition." On the contrary, they reinforce mechanisms of repression and displacement, leading to an accumulation of aggressive drive energies. As a result, individuals protected under the veil of such taboos become trapped in a lifelong state of childish dependency, rendering them easily deceived and misled. Being confined within such a framework makes both freedom and the possibility of living peacefully unattainable.

Enlightenment replaced the power of absolute monarchy and the arbitrary rule of kings with the self-sufficient reason of individuals. The Enlightenment is a project of questioning the traditionally and religiously imposed, aimed at freely establishing ways to define independent truths. Psychoanalysis emerged at this historical juncture, embodying the three foundational issues of its era (12): a focus on subjectivity as the legitimate source and essence of experience; the acknowledgment of the internalization and presence of social power within the subject; and, as a consequence, an engagement with the problem of freedom, addressing the potential and limits of reason as a contradiction of self-governance.

Hence, Rozmarin passionately asserts that psychoanalysis must not condemn individuals to an illusion of separateness and unquestionable social normativity where the only question that the individual in trouble can ask is “What’s wrong with me?” For there to be freedom we must also ask and allow the subject to ask “What’s wrong with the world?” (12).

According to psychoanalysis, human cruelty and subjugation can only be mitigated through the analysis and recognition of the underlying motivations. However, psychoanalysis is not confined to the effort of illuminating the conflicts experienced by the individual throughout their life and shaping their existence. It also contributes to understanding the processes of group unification and separation. The possibility of peace and freedom lies within this framework. Perhaps then, as expressed in Nâzım’s verses, it may be possible to live "like a tree alone and free, and like a forest in brotherhood."

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Evaluation of intimate partner violence victims and perpetrators: A sample from Turkey

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SUMMARY

Objective: Intimate partner violence (IPV) refers to behaviours such as physical, psychological or sexual harm that occur in close or romantic relationships. The main objectives of this study are to describe the characteristics of IPV victims and perpetrators in Turkey, to elucidate the causes and risk factors associated with IPV, and to discuss the data obtained with similar studies.

Method: The study population comprised IPV cases who had consented to participate between February 2019 and June 2020 in the emergency department and forensic medicine clinic.

Results: Physical violence emerged as the primary manifestation of IPV, accounting for 98.4% of reported incidents between partners. Jealousy (38.6%) and economic factors (37.6%) were identified as the most common triggers. Of the victims, 204 (65.6%) cases acknowledge this circumstance when exposed to IPV. As the level of education of the victim increases, violence due to jealousy and family factors was observed. The rate of exposure to economic violence was found to be high among women with low income levels.

Discussion: It was thought that increasing the level of education of female victims of violence, promoting awareness of violence, fully integrating them into the workforce and thereby securing a sustainable economic income can significantly reduce the incidence of IPV and its acceptance. The study suggests that the widespread implementation of psychological support practices, including premarital education programmes and family counselling focused on addressing issues related to jealousy, holds the potential for substantial benefits in reducing IPV.

Key Words: Intimate partner violence, domestic violence, physical violence, risk factors, sexual violence, perpetrators.

INTRODUCTION

Intimate partner violence; It is defined as "abuse by current and former spouses and dating partners in close relationships, which may vary in frequency and severity over a period of time, where one partner keeps the other under power and control, and may include physical, sexual, psychological and economic coercion (1). Intimate Partner Violence (IPV) is a global public health concern predominantly affecting women (2,3). Although developed countries exhibit heightened sensitivity towards IPV and its societal repercussions, it is estimated that IPV occurs at significantly higher rates in patriarchal societies and low-income countries (4). Optimistic estimates from the United States suggest that approximately 20%–30% of women experience IPV at least once in their lifetimes (5). As per the World Health Organization's comprehensive study, encompassing ten countries, women encounter physical and sexual violence at varying rates, spanning from 15% to 71% (6). In Eastern Asia, Western Europe, and North America, IPV is observed at the lowest rates (15% to 20%), while it reaches the highest rates (65%) in Sub-Saharan Africa, indicating significant regional disparities (7). Several factors, including alcohol consumption, history of psychiatric illness, economic constraints, and exposure to violence during childhood, have been identified as contributors to an increased risk of IPV (8). However, these factors should be considered and emphasized separately because the sociocultural and socioeconomic characteristics of each society are different.

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Violence against women is becoming more common around the world and in Turkey (2). According to the report on the Importance and Role of Law Enforcement in Preventing Domestic Violence and Femicide in Turkey; Between January 1 and July 1, 2020, 117 thousand 192 incidents of domestic violence and violence against women occurred (9). The prevalence of IPV against women ranged from 67.7 to 85.4% in regional studies conducted in Turkey (2).

The study aimed to determine the characteristics of IPV victims and perpetrators in eastern of Turkey, to reveal the causes and risk factors of IPV, and to discuss the data obtained with similar studies. The most distinctive feature of this study is that it examines the forensic medical and psychiatric characteristics of IPV perpetrators and victims in eastern Turkey.

METHODS

Victims and perpetrators of intimate partner violence admitted to emergency departments and forensic medicine clinics in a center in eastern Turkey between February 2019 and June 2020 were examined. The study was conducted prospectively, with informed consent acquired from each participant. Some victims did not want to participate, 90% of the victims who came to the polyclinic participated in the research. Victims who wanted to participate in the study were included. Examination records of victims of violence were recorded in a questionnaire prepared by the researchers. The perpetrator data was documented based on anamnesis and information provided by the victims. The survey was administered face to face by the research leader.

The analysis encompassed socio-demographic characteristics of the perpetrator and victims of violence (age, gender, education level, employment status, monthly income, place of living), alcohol and substance use, violence in childhood, the nature of relationship between the perpetrator and the victim, reason for violence, frequency of violence, type of violence experienced, instruments used in the assaults, body parts affected during the attacks, and severity of the injuries. Monthly income was grouped according to minimum wage. While the minimum wage in Turkey was approximately 2000 TL in 2019, it increased to 2300 TL in 2020. No sampling method was chosen for the study and all cases who gave consent between the specified dates were included in the study. The form used in the study; Created by adding new data to the National Injury Prevention and Control Center's National Intimate Partner and Sexual Violence Survey (10).

The study maintained confidentiality by refraining from recording identifying information such as names or ID numbers for the cases involved. The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation and with the Declaration of Helsinki, last revised in 2013. The privacy rights of human subjects were respected during the implementation of study by the authors. Ethical approval for the study's implementation was obtained from the Firat University Non-Interventional Clinical Research Ethics Committees. (Date: 24.01.2019, Number: 19/02).

For statistical analyses, the SPSS (Statistical Package for Social Sciences; SPSS Inc., Chicago, IL) 21 package program was utilized. Categorical variable comparisons between groups were conducted using Pearson's Chi-square analysis. Fisher's Exact test was employed when expected values fell <5, and in cases where >20% of expected values were <5. The normal distribution conformity of continuous variables was assessed using the Kolmogorov–Smirnov test. For comparisons between two groups, when variables adhered to normal distribution the independent samples t-test was employed. The Mann–Whitney U test was utilized when the variables did not adhered to normal distribution. The predetermined level of statistical significance for all analyses was set at $p < 0.05$. The sample size of the study was calculated using the G*Power V3.1.9.2 program. Accordingly, the minimum sample size was calculated as 210 at d=0.50 effect size, 0.95 power and a=0.05 error probability.

Table 1. Socio-demographic characteristics of victims of violence and perpetrators.

		Victims		Perpetrators		p
		n	%	n	%	
The Average Age (year)		33,1–9,8		35,9–10,6		0,001
Sex	Female	277	89,1	34	10,9	<0,001
	Male	34	10,9	277	89,1	
Place of residence	Urban center	292	93,9	290	93,2	0,744
	Countryside	19	6,1	21	6,8	
Pregnancy	Positive	11	3,9	0	0	-
	Negative	274	96,1	0	0	
Week of pregnancy		16,2–8,8		-		-
Number of children		1,7–1,5		-		-
Duration of marriage (year)		10,5–9,1		10,4–9,1		0,932
Number of marriages		1,1–1,0		1,2–0,4		0,896
Level of education	lliterate	22	7,1	4	1,3	0,01
	Primary school	61	19,6	65	20,9	
	Middle school	60	19,3	65	20,9	
	High school	80	25,7	90	28,9	
	University	88	28,3	87	28,0	
Employment	Unemployed	206	66,2	86	27,7	<0,001
	Employed	105	33,8	225	72,3	
Monthly ncome (Turkish Lira)		1098,2–2021,1		3565,8–4122,4		<0,001
Alcohol Use	Positive	11	3,5	102	32,8	<0,001
	Negative	300	96,5	209	67,2	
Substance Use	Positive	3	1,0	32	10,3	<0,001
	Negative	308	99,0	279	89,7	
Marital status	Married	273	87,8	277	89,1	0,616
	Single	38	12,2	34	10,9	
Domestic violence during childhood	Positive	47	15,1	90	28,9	<0,001
	Negative	261	83,9	162	52,1	
	Unanswered	3	1,0	59	19,0	

RESULTS

The study analyzed 311 cases of IPV. Among the victims of violence, 277 (89.1%) were female and 34 (10.9%) were male. The perpetrators comprised 277 (89.1%) males and 34 (10.9%) females. The average age of the victims was 33.1±9.8 years (min–max, 15–66) while the average age of the perpetrators was 35.9 ± 10.6 years (min–max, 18–72). The average age of the perpetrators was significantly higher than the victims (p=0.001). The employment rate among victims (33.8%) was significantly lower than that among perpetrators (72.3%) (p<0.01). Perpetrators were found to have a significantly higher monthly income than the victims (p<0.001). Additionally, the prevalence of alcohol and substance use among perpetrators surpassed that among the victims of violence (p< 0.001). Table 1 provides an overview of the socio-demographic characteristics of victims of violence and perpetrators.

Among the perpetrators, 282 (90.7%) were spouses of the victim, and of these spouses 271 (87.1%) were officially married. Among the married individuals, 164 (57.3%) were found to have married after the dating period. In our country, the arranged marriage period is a period spent by people who are about to get married to get to know each other. This is also seen as a time period with the consent of families (Table 2).

Table 2. Relationship between Partners.

		n	%
Degree of intimacy of the perpetrator	Spouse	282	90,7
	Ex spouse	2	0,6
	Boyfriend/Girlfriend	24	7,7
	Engaged	2	0,6
	Other	1	0,3
Partner relationship type	Officially married	271	87,1
	Religious marriage	11	3,5
	Cohabitation	13	4,2
	Other	16	5,1
Marriage method if the violent spouse	By agreement (dating)	164	57,3
	Arranged marriage	99	34,6
	Forced marriage (by family)	4	1,4
	Elopement	16	5,6
	Forced marriage by abduction	3	1,0

Physical violence was predominantly observed among partners, constituting 98.4%, whereas sexual violence occurred with the lowest frequency at 16.4%. Figure 1 provides an illustration of the various types of violence observed among partners.

The study identified that 26 victims of violence (8.4%) experienced physical violence for the first time with the initial occurrence, typically, transpiring around the 15th month of the relationship. It

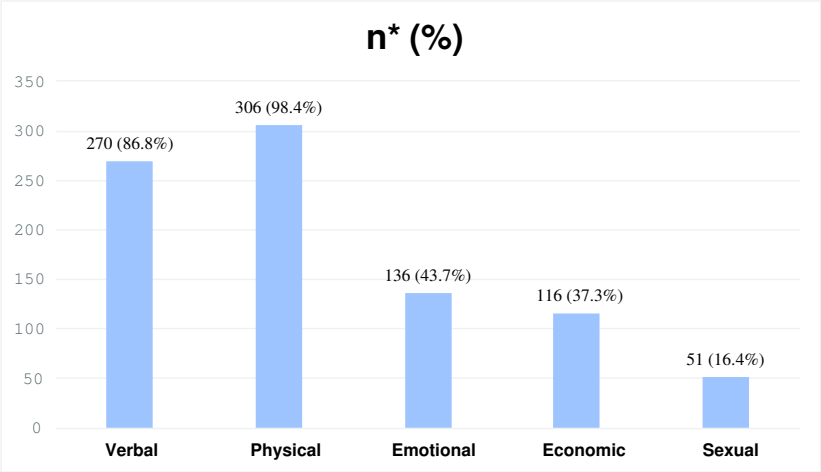

Figure 1. Type of violence between partners *Those who are subjected to more than one type of violence.

was understood that physical violence occurred between partners 34.6 times a year on average. Predominantly, the first incidence of physical violence occurred during marriage (86.8%). While assessing the motives behind IPV, jealousy (38.6%) and economic reasons (37.6%) emerged as the most prevalent, while sexual reasons were the least common (Figure 2).

Among the victims exposed to partner violence, 204 (65.6%) acknowledged and accepted this situation while 56 (18%) sought divorce. People who did not show any reaction after intimate partner violence were reported as accepting. (Figure 3).

Concerning perpetrators, 301 (96.8%) utilized hands/feet during the attacks, 77 (24.8%) employed blunt objects, 29 (9.3%) resorted to sharp tools, and 7 (2.3%) used firearms. The face was the most frequently injured body region (64%) during these attacks (Figure 4). Additionally, the majority of injuries (95.2%) were classified as mild in severity.

When the education levels of the victims were categorized into two groups, "primary school and below" and "middle school and above"; it was observed that the victims with lower education levels had lower rates of experiencing violence due to jealousy ($p < 0.001$) and originating from the families of their partners ($p < 0.001$). Conversely, the victims with higher education levels exhibited lower rates of experiencing violence due to economic rea-

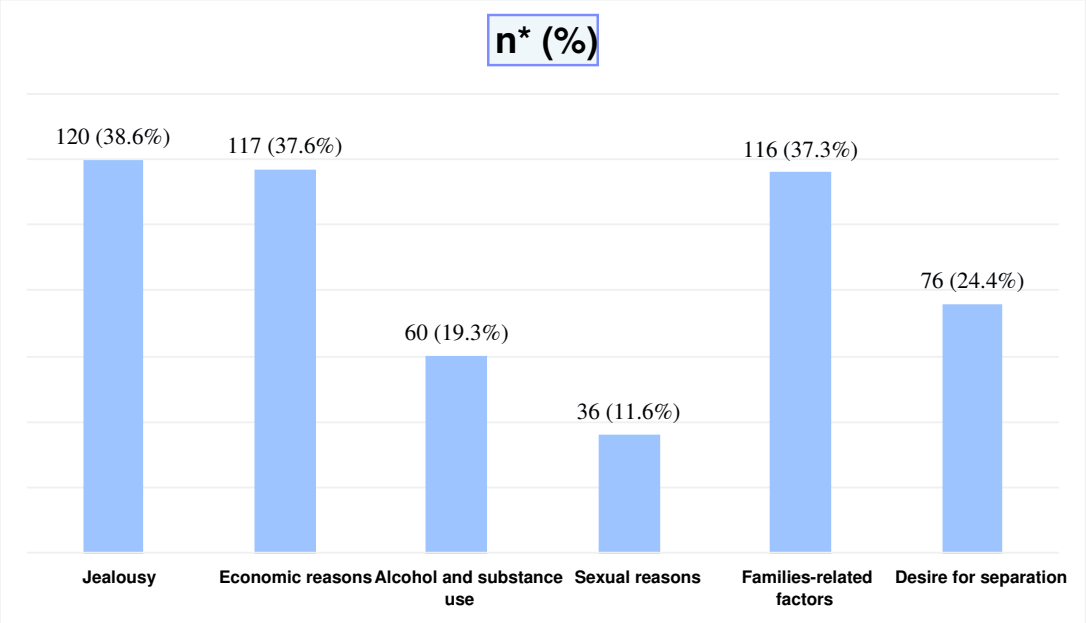

Figure 2. Causes of Violence between Partners * Multiple causes of violence are present.

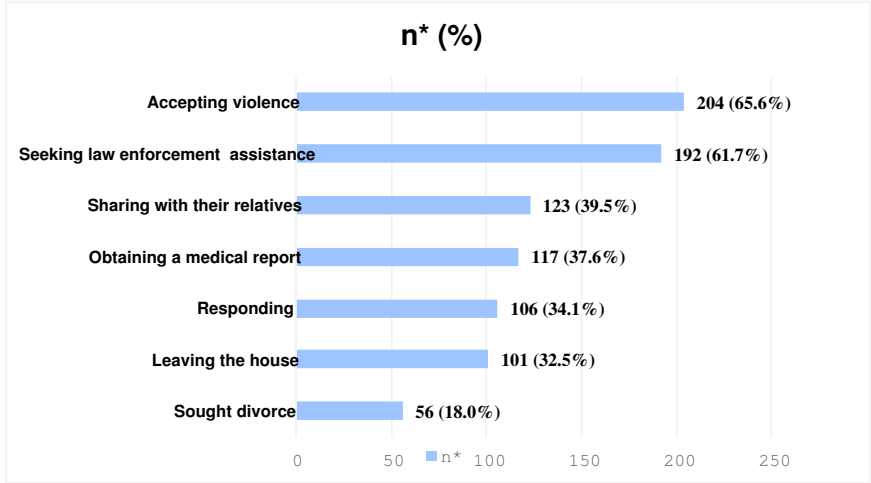

Figure 3. The responses of victims exposed to partner violence. * Multiple responses are present.

sons (p = 0.002). Similarly, among perpetrators, those with higher education levels demonstrated a lower rate of resorting to violence due to economic reasons (p = 0.005). The rate of seeking assistance from law enforcement was significantly higher among the victims with lower education levels (p = 0.041). However, no significant difference was observed between education status and the types of violence, among the victims and perpetrators (Table 3).

Monthly income data was examined in two groups: "below the minimum wage" and "above the minimum wage". It was found that the rate of experiencing violence due to alcohol and drug use was higher among the victims with low-income (p= 0.002). Among perpetrators, the rate of violence stemming from economic reasons was significantly higher among low-income individuals (p=0.028) (Table 4).

Table 3. Comparison of types of violence and responses of victims to violence by the education level of the victim and perpetrator.

		The education levels of the victims					The education levels of the perpetrators				
		Primary school and below		Middle school and above		p	Primary school and below		Middle school and above		p
		n	%	n	%		n	%	n	%	
Jealousy	Pres.*	18	21,7	102	44,7	<0,001	27	39,1	93	38,4	0,916
	Abs. \	65	78,3	126	55,3		42	60,9	149	61,6	
Economic reasons	Pres.	43	51,8	74	32,5	0,002	36	52,2	81	33,5	0,005
	Abs.	40	48,2	154	67,5		33	47,8	161	66,5	
Alcohol and drug	Pres.	14	16,9	46	20,2	0,513	10	14,5	50	20,7	0,252
	Abs.	69	83,1	182	79,8		59	85,5	192	79,3	
Sexual reasons	Pres.	6	7,2	30	13,2	0,148	8	11,6	28	11,6	0,996
	Abs.	77	92,8	198	86,8		61	88,4	214	88,4	
The families of their partners	Pres.	18	21,7	98	43,0	0,001	19	27,5	97	40,1	0,057
	Abs.	65	78,3	130	57,0		50	72,5	145	59,9	
Desire for separation	Pres.	20	24,1	56	24,6	0,933	15	21,7	61	25,2	0,554
	Abs.	63	75,9	172	75,4		54	78,3	181	74,8	
Verbal violence	Pres.	73	88,0	197	86,4	0,721	59	85,5	211	87,2	0,715
	Abs.	10	12,0	31	13,6		10	14,5	31	12,8	
Physical violence	Pres.	82	98,8	224	98,2	0,733	67	97,1	239	98,8	0,308
	Abs.	1	1,2	4	1,8		2	2,9	3	1,2	
Emotional violence	Pres.	33	39,8	103	45,2	0,394	28	40,6	108	44,6	0,550
	Abs.	50	60,2	125	54,8		41	59,4	134	55,4	
Economic violence	Pres.	38	45,8	78	34,2	0,062	26	37,7	90	37,2	0,941
	Abs.	45	54,2	150	65,8		43	62,3	152	62,8	
Sexual violence	Pres.	11	13,3	40	17,5	0,366	8	11,6	43	17,8	0,222
	Abs.	72	86,7	188	82,5		61	88,4	199	82,2	
Accepting violence	Pres.	61	73,5	143	62,7	0,077	48	69,6	156	64,5	0,431
	Abs.	22	26,5	85	37,3		21	30,4	86	35,5	
Responding	Pres.	23	27,7	83	36,4	0,153	21	30,4	85	35,1	0,469
	Abs.	60	72,3	145	63,6		48	69,6	157	64,9	
Sharing with their relatives	Pres.	36	43,4	87	38,2	0,405	22	31,9	101	41,7	0,141
	Abs.	47	56,6	141	61,8		47	68,1	141	58,3	
Leaving the house	Pres.	31	37,3	70	30,7	0,268	21	30,4	80	33,1	0,681
	Abs.	52	62,7	158	69,3		48	69,6	162	66,9	
Seeking law enforcement assistance	Pres.	59	71,1	133	58,3	0,041	44	63,8	148	61,2	0,694
	Abs.	24	28,9	95	41,7		25	36,2	94	38,8	
Obtaining a medical report	Pres.	24	28,9	93	40,8	0,056	24	34,8	93	38,4	0,581
	Abs.	59	71,1	135	59,2		45	65,2	149	61,6	
Sought divorce	Pres.	15	18,1	41	18,0	0,985	9	13,0	47	19,4	0,224
	Abs.	68	81,9	187	82,0		60	87,0	195	80,6	

* : Present , \ : Absent

Table 4. Comparison of causes of violence based on the income status of the victim and the perpetrator.

		Monthly income of the victim					Monthly income of the perpetrator				
		Below the minimum wage		Above the minimum wage		p	Below the minimum wage		Above the minimum wage		p
		n	%	n	%		n	%	n	%	
Jealousy	Present	93	38,0	27	40,9	0,662	57	44,9	63	34,2	0,058
	Absent	152	62,0	39	59,1		70	55,1	121	65,8	
Economic reasons	Present	96	39,2	21	31,8	0,273	57	44,9	60	32,6	0,028
	Absent	149	60,8	45	68,2		70	55,1	124	67,4	
Alcohol and drug	Present	56	22,9	4	6,1	0,002	24	18,9	36	19,6	0,883
	Absent	189	77,1	62	93,9		103	81,1	148	80,4	
Sexual reasons	Present	30	12,2	6	9,1	0,477	13	10,2	23	12,5	0,540
	Absent	215	87,8	60	90,9		114	89,8	161	87,5	
Families-related factors	Present	92	37,6	24	36,4	0,859	42	33,1	74	40,2	0,201
	Absent	153	62,4	42	63,6		85	66,9	110	59,8	
Desire for separation	Present	61	24,9	15	22,7	0,716	25	19,7	51	27,7	0,105
	Absent	184	75,1	51	77,3		102	80,3	133	72,3	

Low-income victims of violence had higher rates of sharing the incident of violence with their relatives (p=0.004), leaving the house (p=0.012), and seeking law enforcement assistance (p<0.001) after the violence incident (Table 5). In contrast, the likelihood of obtaining a medical report after the violence incident was higher among high-income victims of violence (p < 0.001) (Table 5).

DISCUSSION

IPV, conventionally associated with violence perpetrated by men against women (11). It was corroborated by our study, revealing a majority in female victims. This situation creates the perception that androgens play a role in the occurrence of aggression and violence. However, studies have not yet confirmed this relationship. The focus is mostly on the concept of social gender (12). It was thought that the social meaning that society attributes to men and women, especially in developing countries, contributed to the observation of this profound difference.

Interestingly, our study highlighted that perpetrators and victims predominantly resided in urban centers. The observation that perpetrators and victims predominantly resided in urban centers does not necessarily imply a higher prevalence of IPV in urban areas. Because risk factors for intimate partner violence in rural areas; low education level, unemployment, social pressure are more evident (13). It could be indicative of heightened reporting in urban settings, potentially suggesting underreported incidence rates in rural areas.

It was reported that 3%-9% of women experience IPV during pregnancy (14,15). Our study, consistent with existing research, observed a 3.9% rate among pregnant cases. Among female victims of IPV, there are studies showing that the rate of single women is higher (16). Given that 89.1% of cases

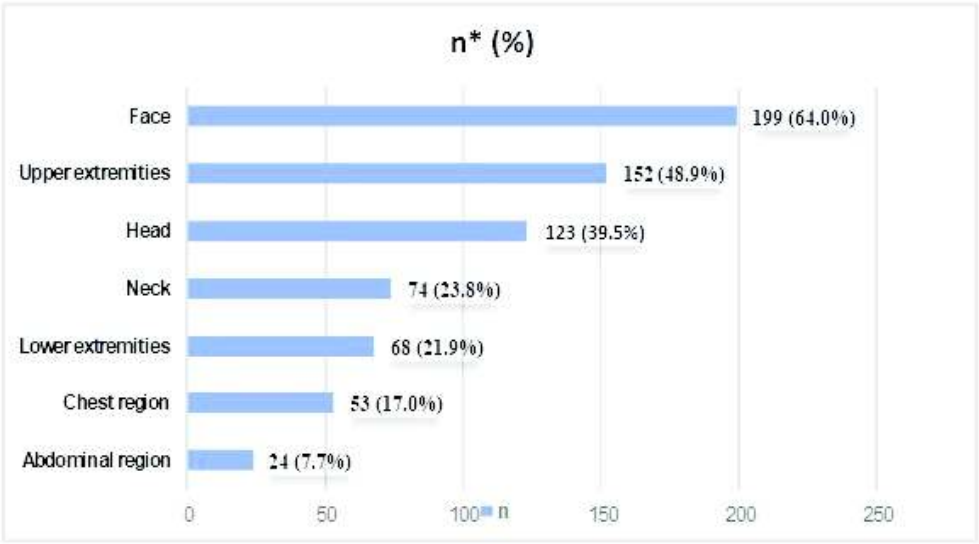

Figure 4. Areas of the body subjected to attack

* In some cases, more than one body part was injured during the same attack.

Table 5. Comparison of responses to violence based on the income status of the victim and the perpetrator.

		Monthly income of the victim					Monthly income of the perpetrator				
		Below the minimum wage		Above the minimum wage		p	Below the minimum wage		Above the minimum wage		p
		n	%	n	%		n	%	n	%	
Accepting violence	Present	167	68,2	37	56,1	0,066	76	59,8	128	69,6	0,076
	Absent	78	31,8	29	43,9		51	40,2	56	30,4	
Responding	Present	77	31,4	29	43,9	0,057	50	39,4	56	30,4	0,102
	Absent	168	68,6	37	56,1		77	60,6	128	69,6	
Sharing with their relatives	Present	107	43,7	16	24,2	0,004	44	34,6	79	42,9	0,142
	Absent	138	56,3	50	75,8		83	65,4	105	57,1	
Leaving the house	Present	88	35,9	13	19,7	0,012	43	33,9	58	31,5	0,665
	Absent	157	64,1	53	80,3		84	66,1	126	68,5	
Seeking law enforcement assistance	Present	164	66,9	28	42,4	<0,001	83	65,4	109	59,2	0,275
	Absent	81	33,1	38	57,6		44	34,6	75	40,8	
Obtaining a medical report	Present	80	32,7	37	56,1	<0,001	45	35,4	72	39,1	0,508
	Absent	165	67,3	29	43,9		82	64,6	112	60,9	
Sought divorce	Present	40	16,3	16	24,2	0,137	19	15,0	37	20,1	0,245
	Absent	205	83,7	50	75,8		108	85,0	147	79,9	

in this study were married, domestic violence can persists within families regardless of marital status. Moreover, the lower marriage age and higher marriage rates in Turkey, compared to developed societies, may contribute to proportional differences.

Educational levels play a crucial role in shaping perspectives and behaviors in relationships, with low education being a recognized risk factor for IPV (17). In our study, an unexpectedly high rate (54.0%) was found of individuals with a high school or university education levels. This finding may be linked to a higher incidence of official reports among those with higher education levels, suggesting a potential correlation between education and reporting rates.

In a study conducted in Norway, it was reported that 59% of female victims of violence were unemployed, and in a study conducted in India, 54.2% of female victims of violence were unemployed (18,19). In a study conducted in Turkey, it was stated that women's low status and lack of economic freedom may be related to violence against women (20). The high rate of unemployment among female victims of IPV, as identified in our study, resonates with findings from other regions. This recurrent trend across societies suggests that women who are financially independent and employed may experience less violence.

The family, often considered the primary context for shaping problem-solving approaches and relationship dynamics, plays a crucial role in determining violent behavior. Exposure to violence during childhood lays the groundwork for a learned behavior model, particularly among individuals who later become perpetrators of violence (21). In our study, a notable difference was observed between victims and perpetrators concerning experiences of domestic violence during childhood. This finding supports the concept of an intergenerational cycle of violence. Similarly, studies conducted in Turkey found that those with a history of domestic violence in childhood were more likely to perpetrate intimate partner violence (2,22).

On analyzing the relationship between women subjected to violence and the perpetrators, it was evident that the most common relationship was the legal marriage (90.7%). These marriages, lasting an average of over 10 years, underscore the urgency of addressing societal issues and preventing violence to safeguard future generations.

IPV stands as the most pervasive form of violence against women (23), with global statistics from the World Health Organization indicating that 1 in 3 women experiences physical and sexual violence in their life span (2,24). Physical violence tends to be more frequently reported than other forms due to its visible and easily verifiable nature. In a study conducted by Gümüş et al., it was found that between 30.4% and 62% of women in Turkey were subjected to physical violence by their partners (20). In our study, the highest prevalence was observed in physical violence (98.4%) and verbal abuse (86.8%) among partners, sexual violence being the least common form of abuse (16.4%). This pattern may be associated with women's hesitancy to disclose instances of sexual violence, potentially driven by the fear of stigma influenced by societal and cultural norms. In addition, the

higher frequency of physical violence in our study was expected due to the fact that the participants presented to emergency and forensic medicine services for physical injuries.

Within the scope of this study, the predominant reasons for violence between partners were jealousy (38.6%), followed closely by economic reasons (37.6%) and involvement of the families (37.3%). The underlying causes of violence exhibit variations influenced by the distinctive characteristics of societies. While alcohol use by the aggressor has been recognized as a significant risk factor for violence (25). Although our study shows a relatively lower rate of violence attributed to alcohol and substance use (19.3%), appearing considerably lower than other causes. This disparity suggests that the solutions to addressing violence should be contextually tailored to the unique dynamics of the local environment.

It was evaluated that some women perceived violence as an acceptable behavior because they perceived violence as a normal part of marriage, a private problem to be solved within the family and did not seek social support for violence (20). In evaluating the responses of victims of violence in our study, it was noteworthy that 65.6% of the victims chose to "accept violence," and 61.7% sought law enforcement assistance. This contrasts with a study in Bangladesh that reported that 60% of women did not seek help from others, with only 2% turning to officials, primarily in perceived life-threatening situations or when they felt their children were in danger. In the same study, 66% of women were found to have remained silent about incidents of IPV, attributing their silence to the fear of accepting violence and apprehensions about potential escalation (26). In our study, the elevated rates of both accepting violence and seeking law enforcement assistance among the victims may be attributed to an initial perception that the violence was a one-time occurrence, with the hope that it would cease or not escalate further. However, as the pattern of violence persisted, seeking assistance from law enforcement might have been seen as a viable means of escaping the violent environment and separating from the perpetrator. Moreover, the notable high rate of reporting to official institutions in our study may be linked to recent legal regulations addressing domestic violence in Turkey and an increased societal awareness of this issue.

Acts of violence often encompass a combination of common attack actions, aggressive behaviors, and verbal threats and insults (27). In our study, none of the cases reached a life-threatening situation, and injuries of a manageable nature, requiring simple medical Intervention, were observed in 95.2% of the cases. Notably, 64% of those subjected to the attack received blows to the face, 48.9% to the upper extremities, and 39.5% to the head region. A study conducted in Singapore revealed that lesions detected in women were found to be 73.6% in the head and neck, 26.3% in the extremities, and 47.2% in the trunk (28). In a study conducted in Iran, it was determined that only 2.6% of women subjected to physical violence were traumatized to the extent of requiring hospitalization (29). The results of our study are consistent with these literatures. It is presumed that individuals resort to violence not with the intention of seriously injuring their spouses, rather to assert themselves or fulfill a request.

The incidence of economic violence was significantly higher among women with low income, and simultaneously, the rate of seeking law enforcement assistance was significantly lower. Financial independence for women is reported to be protective against IPV (30).

Future research directions

Intimate partner violence is one of the most important issues for society. It is thought that multidisciplinary studies should be conducted on this subject, including fields such as psychiatry, forensic medicine and sociology. In Turkey, there are very few studies examining the perpetrators and victims of intimate partner violence together. It is thought that studies should be conducted on the effects of Turkish culture on perpetrators and victims of violence. A multicenter study should be conducted on a larger case study. Additionally, follow-up of the cases should be ensured.

Our study is cross-sectional and a face-to-face survey interview was conducted with the victims. One

of the limitations of the study is that people's subsequent reactions to violence could not be followed.

In conclusion, our study reveals that violence is most frequently perpetrated by the official spouse. The most common form is physical violence. Jealousy emerges as the most common reason for violence, and the victims often respond by accepting the situation. The physical traumas that occur are more often in the form of mild injuries. As the educational level of the victim decreases, violence is more frequently associated with economic reasons. Conversely, as the education level increases, violence is more commonly linked to jealousy and family-related factors. Additionally, it was observed that the victims of violence with lower education levels tend to seek law enforcement assistance more frequently.

Legal regulations and state institutional mechanisms regarding violence are often limited in their scope, primarily addressing actions that can be taken after a violent incident has occurred. These measures typically lack noticeable preventive effects beyond removing the victim from the violent environment and imposing sanctions on the perpetrator. Indeed, various studies and observations highlight that elevating the educational level of women, raising awareness about violence, increased participation in the workforce, and achieving economic independence play pivotal roles in greatly reducing the occurrence and acceptance of violence among female victims. The study suggests that widespread implementation of psychological support practices, including pre-marital education programs and family counseling focused on addressing issues related to jealousy, and holds the potential for substantial benefits in mitigating IPV.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Declaration of Interests

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The effect of mental health literacy training given to primary care physicians on beliefs and attitudes towards mental illnesses: A randomized controlled trial

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SUMMARY

Objective: This study aimed to assess the impact of mental health literacy education on the beliefs and attitudes of family physicians in Turkey regarding mental illnesses.

Method: This study, conducted using a pre-test post-test experimental design with experimental and control groups, involved 461 physicians from 95 Family Health Centers in Kayseri, Turkey. Both experimental and control groups were administered pre-tests, followed by online mental health training for the experimental group, and then post-tests were conducted. Data were collected using the "Personal Information Form," "Mental Health Literacy Scale," "Beliefs toward Mental Illness Scale," and "Community Attitudes toward the Mentally Ill Scale."

Results: Data from 184 physicians were analyzed, the educational intervention significantly improved mental health knowledge (p=0.032), help-seeking adequacy (p=0.043), and positive attitudes (p=0.032), while reducing perceptions of danger (p=0.043) among the intervention group. The study indicated significant enhancements in mental health knowledge and help-seeking adequacy among primary care physicians in Turkey following online mental health literacy education. However, its impact on beliefs and attitudes towards mental illness is comparatively modest. Further research is necessary for a deeper analysis of the relationships between these dimensions.

Discussion: Mental health literacy education positively influences primary care physicians' knowledge and help-seeking behaviors regarding mental illnesses, although it has a relatively modest impact on their beliefs and attitudes. There is a need for further research to conduct a more in-depth analysis of the relationships between the dimensions of beliefs and attitudes towards mental illnesses in mental health literacy education.

Key Words: Mental Health, Primary Health Care, Community Health, Family Physician, Preventive Medicine.

INTRODUCTION

Mental health problems continue to be prevalent worldwide. The World Health Organization (WHO) emphasizes that, without mental health, there can be neither health nor sustainable development, asserting that investing in mental health is an investment in humanity (1). Contemporary economic downturns, humanitarian crises, poverty, conflict, forced displacement, natural disasters, escalating climate crises, violence and social inequalities are predicted to continue to pose threats to mental health in the future. These various interactive biopsychosocial factors range from societal stressors to individual factors, such as low self-esteem and collectively weakening mental health (2). The increasing prevalence of mental health disorders has serious consequences, including significant personal burdens, reduced quality of life, human rights violations, stigmatization and discrimination, poverty, decreased productivity, physical health problems, and premature death, affecting both the individuals and their families (3). This situation leads to an expanding treatment gap for mental health issues, with one of the main reasons being low levels of mental health literacy (MHL) (4).

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The MHL can be defined as an individual's competence in understanding, recognizing, and managing mental illnesses. In 2012, this concept also encompassed the ability to provide support to individuals experiencing mental health issues and knowing where to seek professional help4. MHL is generally considered a crucial element in enhancing the mental health and well-being of individuals and communities. Numerous recent studies have shown a relationship between low mental health literacy and adverse health outcomes (5,6). Developments in mental health literacy have conclusively been demonstrated to improve the recognition of mental illnesses in society and enhance knowledge, attitudes, and intended behaviors towards individuals with mental illnesses (7,8).

Increasing services for individuals identified as needing mental health care are reported to be best achieved through the provision of mental health services in primary care (9). Primary care services are expected to provide initial contact for individuals and demonstrate the capacity to offer comprehensive, continuous, and coordinated services to those with health problems while also having the ability to quickly refer to higher levels of care. However, this expectation is often not met in the majority of low-income and middle-income countries within the scope of primary healthcare services (9,10). The reasons for this include inadequate training of primary healthcare workers, stigma, insufficient recognition, and inappropriate treatment of mental health conditions as well as reported issues of resource and funding shortages (11,12,13).

Numerous studies have indicated that primary healthcare personnel have insufficient knowledge about mental health (2,14), experience stigma (15) and have various attitudes and skill gaps (12,16,17). However, there are still ongoing knowledge gaps in this subject (11,13,18). Although family physicians play a crucial role in the early detection and treatment of mental health problems in individuals and family members (19), no study has been conducted to determine the mental health literacy levels of family physicians working in primary healthcare services in Turkey.

Family physicians in primary care should inform individuals about their mental health, identify mental disorders and guide users to appropriate services. Unfortunately, health personnel working in primary care often report insufficient knowledge to identify and manage mental health issues and express the need for specific professional training (12,20). Given the geographical and cultural diversity of Turkey, individuals' beliefs may vary and these beliefs can be specific to certain cultures. These strong cultural beliefs and traditional perspectives can influence family physicians' views on mental disorders (11,21), subsequently affecting their beliefs and attitudes towards mental illnesses.

This study aims to contribute to our understanding of family physicians' perspectives on mental health services and to evaluate the impact of education on their mental health literacy, beliefs, and attitudes.

To evaluate the effects of mental health literacy education on stigma-related beliefs and attitudes, the following hypotheses were formulated:

1-Family physicians who receive online mental health literacy education will show a significant increase in their awareness of mental health issues.

2-Family physicians who undergo online mental health literacy education exhibit a decrease in negative beliefs and attitudes towards mental illnesses.

METHODS

This study was a two-arm, parallel-group, single-blind randomized controlled trial (RCT). The results of this study are reported in accordance with the CONSORT 2010 statement (22).

Participants

The population of this study was 461 general practitioner family physicians (FPs) working in 95 Family Health Centers in Kayseri Province. The sample size of the study was calculated using G-power analysis, and 92 participants in each group were considered sufficient. FPs consenting to the

study and meeting the inclusion criteria were randomly allocated to the intervention and control groups based on the sequence number of the list in the Provincial Directorate of Health Records. In the Excel file prepared by the Provincial Directorate of Health for FPs, it was observed that the rural/urban and regional order was quite clear and organized. Computer-assisted randomization was performed to ensure blinding in determining the groups.

The inclusion criteria were as follows.

1-Being a general practitioner FP in Kayseri Province.

2- Having the infrastructure to access online education during teaching hours

3- Attending at least 90% of the education program

4- Consenting to participate in the research.

There were no age or sex restrictions in this study.

The exclusion criteria were as follows.

1. Refusing to participate in education and surveys for research purposes.

2. Having missed more than 10% of the education program

3. Being a Specialist FP.

The sample size for each group was determined to be 135 individuals to ensure adequacy of the sample size with the inclusion of intervention in the study and to maintain it during the retest process. In the post-hoc power analysis conducted with G Power 3.1.9.7, the statistical test was set as correlation, effect size was 0.5 and α was 0.05, resulting in a study power (1- β) of 0.95.

Place and time of the research

The pre- and post-surveys were sent to the workplaces of the FPs through institutional mail between August 2022 and June 2023 and were likewise collected. The educational intervention was conducted through an online platform in March 2023.

Measurement Tools Used in the Study

Personal Information Form: The questionnaire was prepared by the researchers for this study by reviewing the literature (11). It consisted of 21 personal and professional information questions.

Mental Health Literacy Scale (MHLS): Developed by Jung (23) in 2016 and translated and validated in Turkish by Göktaş et al. in 2019 (24). The MHLS comprises 22 items and is divided into three subscales: knowledge of signs and symptoms of MH illness (MHLS-1)(items 1–10), MH beliefs (MHLS-2) (items 11–18) and knowledge of MH resource (MHLS-3)(items 19–22). The scores on the scale ranged from 0 to 22. The first two sub-dimensions, consisting of 18 6-point Likert type questions questions, with response options such as "strongly agree, agree, undecided, disagree, strongly disagree, don't know." Responses to the 4 questions in knowledge of resources of MH sub-dimension items have the answer options "yes" and "no." Choosing "strongly agree," "agree," or "yes" results in a score of "1 point," while other responses are assessed as "0 points." Items between the 11th and 18th percentiles were reverse-coded. As the scores obtained from the MHLS increased, this indicated that the individual had a higher level of mental health literacy.

The Beliefs Toward Mental Illness Scale (BMI): In order to measure participants' stigma, the 'Beliefs Toward Mental Illness Scale' (BMI) was administered. BMI was developed by Hirai and Clum in 2000 (25) and the Turkish version was validated by Bilge and Çam in 2008 (26). The BMI is a 21-item measure designed to evaluate negative stereotypical perceptions of psychological disorders and is categorized into three subscales. Dangerousness (BMI-1) (eight items): An individual with a mental illness is more likely to harm others than a healthy individual. Incurability and Social Dysfunction (BMI-2) (11 items): This factor examined attitudes regarding the social functioning of people with mental illness, including perceptions of their relia-

bility in work environments, punctuality, ability to live independently, beliefs regarding the chronic and incurable nature of mental illnesses, encompassing ideas of recurrence, lifelong impact, and prolonged treatment requirements. Embarrassment (BMI-3) (two items): This factor investigates feelings of embarrassment or stigma linked to mental illness, particularly concerning the individual or their family members who are diagnosed with a psychological disorder.

Each item is scored on a 6-point Likert-type scale ranging from 0 (completely disagree) to 5 (completely agree). Higher total scale and subscale scores indicate a greater degree of stigma toward psychological disorders.

Community Attitudes Toward Mental Health Scale (CAMI): Developed by Taylor and Dear in 1981 (27), the Turkish version validated by Bağ and Ekinci in 2006 (28). It consists of 21 items across three subscales: fear/exclusion (CAMI-3), Community Mental Health Ideology (CAMI-2) and goodwill (CAMI-1). Higher total scores on the CAMI-1 and CAMI-2 Ideology subscales reflect a positive attitude, whereas a higher total score on the CAMI-3 subscale indicates a negative attitude.

Presentation of the educational content

The educational content was developed by the faculty members of Erciyes University Faculty of Medicine, Department of Psychiatry, Department of Public Health and Department of Medical Education. The short educational program included the following subjects: "Mental illnesses in primary care; Recognition, evaluation and differentiation of psychiatric diseases; Psychiatric emergencies and critical situations; Coping with stress and stress management for health personnel".

The online education platform link address and content were shared one day before the education through the communication channels reported by those willing to participate in the study for presentation of the educational content prepared for the intervention group. The educational programs were implemented online. The program was conducted in four sessions on the same day. Each educational content session lasted for 35 minutes on average. Chat and WhatsApp groups were used to allow the audience to ask questions during the online lecture. A 10-minute break was given after each session. The program was implemented on weekends, outside of working hours.

Statistical assessment

The independent statistical support was obtained for the analysis of the research results to ensure blinding in the analyses. Frequencies and percentages were used to present data on demographic variables and the chi-square test or Fisher's exact test was used to determine the differences between independent variables. The answers given to the pre- and post-test scale items used in the study did not conform to a normal distribution ($p<0.05$). Mann-Whitney U test was used to compare differences between groups for continuous variables. Wilcoxon Paired Two-Sample Test was used for the pre- and post-test analysis of dependent variables. Spearman's test was used to assess the relationship between the scale scores. The results were considered significant at a 95% confidence interval and $P<0.05$. The results were analyzed using SPSS, version 25.0 (SPSS Inc., Chicago, IL, USA).

Ethical Considerations

The study was conducted in accordance with the World Medical Association Declaration of Helsinki. Permission was obtained with the decision of Erciyes University Clinical Research Ethics Committee dated 06.10.2021 and numbered 2021/643. This study was derived from the doctoral thesis titled "Mental Health Literacy and Virtual Training Program Pilot Study in Primary Care Health Workers". The clinical trial was registered with the number ACTRN12622001223729.

RESULTS

This study included 461 family physicians. As 46 family physicians did not meet the inclusion criteria and 145 family physicians declined participation, 270 individuals were randomized. Figure 1 illustrates the numerical dynamics of participants du-

Table 1. Demographic characteristics at baseline

	Control group (n=93)		Educational group (n=91)		Total (n=184)		t or x^2	*p*
Age – SS	50,04 – 6,68		47,91 – 7,87		48,98 – 7,35		t=1,981	p=0,063
Professional Year – SS	25,09 – 6,73		22,69 – 7,84		23,90 – 7,38		t=2,231	p=0,057
	n	%	n	%	n	%		
Gender								
Male	68	73,1	53	58,2	121	65,8	x^2=4,521	p=0,330
Female	25	26,9	38	41,8	63	34,2		
Marital status								
Married	82	88,2	83	91,2	165	89,7	x^2=0,458	p=0,499
Not married	11	11,8	8	8,8	19	10,3		
Family Type								
Nuclear family	77	82,8	83	91,2	160	86,9		
Extended family	6	6,5	5	5,5	11	6,0	x^2=4,064	p=0,131*
Alone	10	10,7	3	3,3	13	7,1		
Income status								
Income = expense	45	48,4	44	48,4	89	48,4		
Income <expense	21	22,6	21	23,1	42	22,8	x^2=0,008	p=0,996
Income > expense	27	29,0	26	28,5	53	28,8		
The situation of having mental health problems in the past								
Have	22	23,7	23	25,3	45	24,5	x^2=1,117	p=0,572
Have not	71	76,3	68	74,7	139	75,5		
The state of being a relative diagnosed with a mental illness								
Have	22	23,7	30	33,0	52	28,3	x^2=1,967	p=0,161
Have not	71	76,3	61	67,0	132	71,7		
The status of receiving primary care mental health education after graduation								
Yes	51	54,8	45	49,5	96	52,2	x^2=0,535	p=0,464
No	42	45,2	46	50,5	88	47,8		
The state of considering preventive mental health services as a duty								
My duty	63	67,7	68	74,7	131	71,2		
Not my duty	2	2,2	1	1,1	3	1,6	x^2=3,768	p=0,438*
I doubt it	28	30,2	22	24,2	50	27,2		
Location of the family health center (FHC)								
Urban FHC	90	96,8	81	89,0	171	92,9	x^2=4,222	p=0,470*
Rural FHC	3	3,2	10	11,0	13	7,1		

*Fisher s exact test.

ring the study period. The mean age of participating family physicians was 48.98±7.35 (control: 50.04±6.68 and intervention: 47.91±7.87), with mean years of professional experience being 23.90±7.38 (control: 25.09±6.3 and intervention: 22.69±7.84). Of the participants, 65.8% were male (control: 73.1% and intervention: 58.2%) and 92.9% (control: 96.8% and intervention: 89.0%) worked in provincial primary healthcare centers. Other demographic characteristics of the included physicians are presented in Table 1. Homogeneity of distribution between the control and intervention groups of the included family physicians was established ($p > 0.05$; Table 1). In this study, 91 family physicians in the intervention group and 93 in the control group underwent the final test (Figure 1).

Among the participating family physicians, 52.2% reported having received postgraduate education on mental health (control: 54.8% and intervention: 49.5%). 71.2% stated that they had responsibilities for preventive mental health services among primary healthcare services (control: 67.7% and intervention: 74.7%) (Table 1).

The pre-test scale scores of the intervention and control groups were homogeneously distributed before the intervention, indicating comparability for the research ($p > .05$)(Table 2). The group post-test scale scores are compared in Table 2. Among the scales used in the study, the MHLS comprises three subscales: knowledge about mental illnesses, beliefs and help-seeking behaviors. The intervention group exhibited significant increases compared to the control group in subscales indicating knowledge about mental illnesses and help-seeking behaviors. BMI comprises three subscales: perceived danger, perceived uncontrollability and perceived stigma in interpersonal relationships. Table 2 indicates that there was a decrease in perceived uncontrollability/perceived stigma in personal relationships and in total BMI scores in the intervention group compared with the control group. However, no difference was observed between the control and intervention groups in the other two subscales of the BMI. CAMI is comprised of three subscales: benevolence, mental health ideology and social restrictiveness/fear. As shown in Table 2, only the fear score of physicians in the intervention group was significantly lower than that in the control group.

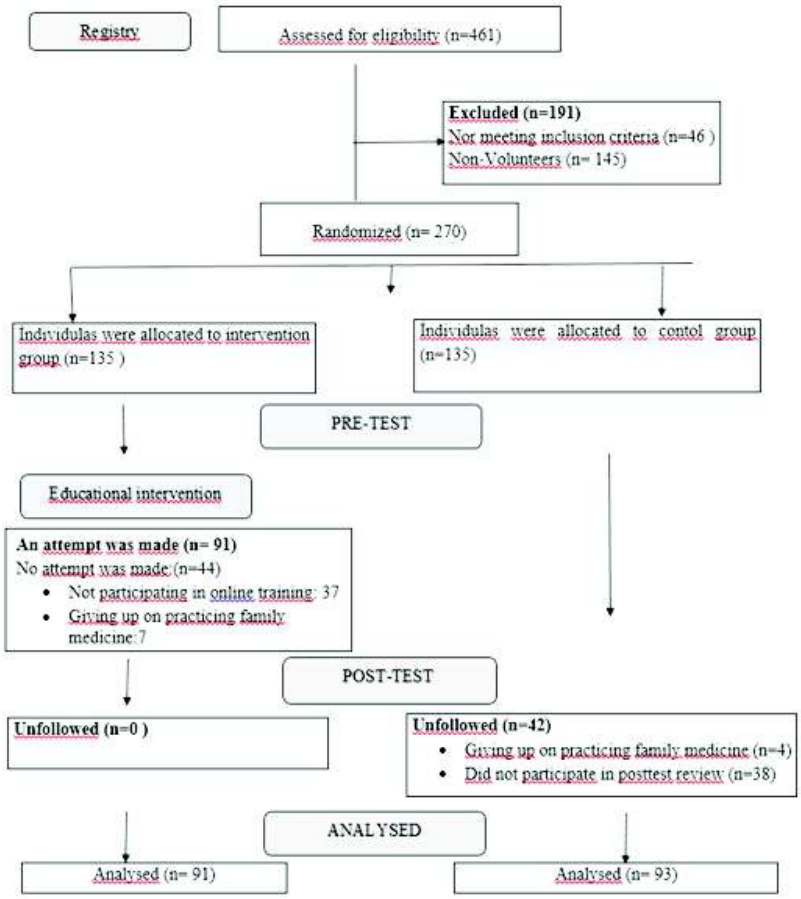

Figure 1. CONSORT 2010 flowchart.

In light of these findings, it was determined that physicians who received mental health literacy education had increased awareness of mental illnesses and help-seeking behavior compared to the control group and that fear and communication problems in relationships with individuals with mental health problems decreased.

Table 3 presents the results of the Wilcoxon signed-rank test analysis comparing the pre- and post-test scores of the physicians in the intervention group. The results revealed that the intervention significantly increased MHLS and all of its subscales' scores (MHLS (p=0.05), MHL-1 (p=0.01), MHL-2 (p=0.01) and MHL-3 (p= 0.01)). Additionally, the educational intervention was found to be effective in the three subscales of the CAMI ($p < 0.05$). Educational intervention did not affect the BMI and its subscales.

The Wilcoxon signed-rank test was used to compare the pre- and post-test results for the control group (Table 4). The analysis found an increase in the mental health knowledge level compared with the pre-test results for the control group. However, no changes were observed in BMI and CAMI scores ($P > 0.05$).

The results indicate that after the educational program, physicians' awareness of and intention to seek help for mental illnesses increased and fear attitudes towards mental illnes decreased. Our study findings demonstrate that the importance of mental health for the individuals and the community cared for by family physicians, as well as supportive communication attitudes, have increased. For physicians who did not receive the educational intervention, awareness of mental illnesses increased after the pre-test.

MHLS, BMI, and CAMI pre-test and post-test scores were subjected to Mann-Whitney U and Kruskal-Wallis tests for demographic factors, such as age, gender, marital status, family type, income

Table 2. Comparison of pre-test/ post-test scales and subscale scores of FPs in the control and experimental group

Scale	Group	Pre-test					Post-test				
		N	Mean Rank	Median (Min-max)	u	p	N	Mean Rank	Median (Min-max)	u	p
MHLS	Control	93	97,44	15(10-22)	3772,5	0,202	93	81,74	17(11-22)	3231	0,005*
	Experimental	91	87,46	15(6-22)			91	103,49	19(14-22)		
MHLS-1	Control	93	97,8	6(5-9)	3739	0,158	93	88,2	7(4-10)	3832	0,209
	Experimental	91	87,09	9(3-10)			91	96,89	10(6-10)		
MHLS-2	Control	93	98,92	5(2-8)	3634	0,086	93	85,04	6(2-8)	3537,5	0,049*
	Experimental	91	85,93	4(2-8)			91	100,13	6(3-8)		
MHLS-3	Control	93	99,22	2(1-4)	3606,5	0,071	93	85,77	2(1-4)	3605,5	0,044*
	Experimental	91	85,63	2(1-4)			91	99,38	3(1-4)		
BMI	Control	93	92,66	43(5-84)	4217	0,968	93	100,21	46(19-70)	3514,5	0,047*
	Experimental	91	92,34	43(9-95)			91	84,62	41(5-73)		
BMI-1	Control	93	93,13	19(3-37)	4173	0,871	93	97,02	20(5-30)	3811	0,244
	Experimental	91	91,86	18(4-34)			91	87,88	17(3-34)		
BMI-2	Control	93	94,62	23(5-52)	4034	0,584	93	103,1	26(4-38)	3245,5	0,006*
	Experimental	91	90,33	21(8-55)			91	81,66	19(7-43)		
BMI-3	Control	93	90,81	3(1-10)	4074,5	0,651	93	90,2	2(1-6)	4017,5	0,537
	Experimental	91	94,23	2(1-10)			91	94,85	1(1-9)		
CAMI	Control	93	97,18	51(13-83)	3796,5	0,228	93	97,02	53(33-81)	3811,5	0,244
	Experimental	91	87,72	49(6-83)			91	87,88	52(37-82)		
CAMI-1	Control	93	94,98	21(13-33)	4000,5	0,521	93	91,28	23(13-33)	4118	0,752
	Experimental	91	89,96	21(9-34)			91	93,75	23(15-34)		
CAMI-2	Control	93	98,12	23(10-40)	3708,5	0,147	93	94,52	21(4-30)	1351	0,001*
	Experimental	91	86,75	22(10-40)			91	76,1	23(13-44)		
CAMI-3	Control	93	87,52	7(4-10)	3768,5	0,187	93	97,47	8(4-39)	1811,5	0244
	Experimental	91	97,59	7(5-16)			91	80,85	6(3-10)		

*p<0,05 / Mann-Whitney U Test. MHLS: Mental Health Literacy Scale(MHLS -1. Knowledge, MHLS -2: Belief, MHLS-3: Resource); B MI: The Beliefs Toward Mental Illness scale (BMI -1: Dangerousness, BMI -2: Incurability and Social Dysfunction, BMI -3: Embarrassment); CAMI: Community Attitudes Toward Mental Health Scale (CAMI -1: Goodwill, CAMI-2: Community Mental Health Ideology, CAMI-3: Fear/Exclusion)

level, years of professional experience, working in rural or urban primary care facilities, receiving postgraduate mental health education, being close to a individual with mental illness, experiencing a mental illness, and considering preventive mental health services as part of their duty.

To understand the relationship between the post-test scores of all MHLS, BMI and CAMI subscales for physicians who received mental health literacy education, Spearman's correlation coefficients were calculated (Table 5). According to the analysis, there was a positive and strong relationship between all the MHLS-1, MHLS-2 and MHLS-3 post-test scores. Additionally, a negative relationship was found between MHLS-1 and CAMI-3 scores. MHLS-3 had a strong negative relationship with BMI-2 and CAMI-3 post-test scores and a positive relationship with the CAMI-2 score.

These results indicate that as physicians' mental health knowledge increases, awareness of help-seeking behavior for individual with mental illness and attitudes towards treatability increase, and fear of mental patients and avoidance attitudes in communication decrease.

DISCUSSSION

This study examined how the mental health literacy education provided to primary care physicians affected their level of awareness of mental health issues and their beliefs and attitudes towards these conditions.

This study examined how mental health literacy education provided to primary care physicians affected their level of awareness of mental health issues and their beliefs and attitudes towards these conditions. Our findings support our first hypothesis. It was determined that the average scores for MHLS and all its sub-dimensions increased as a result of the education. Physicians in the intervention group showed increased knowledge of mental health, improved help-seeking behavior and supportive attitudes. Our results are consistent with existing literature on the effectiveness of educational interventions aimed at increasing mental health literacy among healthcare professionals. Previous studies have shown that educational interventions, including online courses, are effective in enhancing mental health literacy among healthcare professionals (29, 30). Griffiths et al. (2016) reported in their meta-analysis that an online mental health education program significantly increased medical students' mental health knowledge and confidence in coping with mental health issues

Table 3. Experimental Group's Pre-test vs. Post-test Scores Comparison via Wilcoxon Signed-Rank Test

Parameters	Ranks	N	Mean Rank	Sum of Ranks	Z	p
Pre-MHLS /	(-)	0	0	0		
Post -MHLS	(+)	87	44	3828	-8,114	
	=	4				,001*
Pre-MHLS-1 /	(-)	0	0	0		
Post-MHLS-1	(+)	57	29	1653	-6,718	
	=	34				,001*
Pre-MHLS-2 /	(-)	0	0	0		
Post-MHLS-2	(+)	67	34	2278	-7,162	
	=	24				,001*
Pre-MHLS-3 /	(-)	0	0	0		
Post-MHLS-3	(+)	57	29	1653	-6,706	
	=	34				,001*
Pre-BMI /	(-)	50	50,32	2516		
Post-BMI	(+)	41	40,73	1670	-1,675	
	=	0				,094
Pre-BMI-1 /	(-)	48	42,55	2042,5		
Post-BMI-1	(+)	39	45,78	1785,5	-,544	
	=	4				,586
Pre-BMI-2 /	(-)	50	47,28	2364		
Post-BMI-2	(+)	37	39,57	1464	-1,906	
	=	4				,057
Pre-BMI-3 /	(-)	36	39,51	1422,5		
Post-BMI-3	(+)	36	33,49	1205,5	-0,613	
	=	19				,541
Pre-CAMI /	(-)	30	39,57	1187		
Post- CAMI	(+)	56	45,61	2554	-2,945	
	=	5				,003*
Pre-CAMI-1	(-)	26	37,1	964,5		
Post-CAMI-1	(+)	58	44,92	2605,5	-3,668	
	=	7				,001*
Pre-CAMI-2	(-)	35	40,2	1407		
Post-CAMI-2	(+)	51	45,76	2334	-1,998	
	=	5				,046*
Pre-CAMI-3	(-)	45	41,94	1887,5		
Post-CAMI-3	(+)	29	30,6	887,5	-2,724	
	=	17				,006*

*P<0,05. MHLS: Mental Health Literacy Scale(MHLS-1. Knowledge, MHLS-2: Belief, MHLS-3: Resource); BMI: The Beliefs Toward Mental Illness scale (BMI-1: Dangerousness, BMI-2:Incurability and Social Dysfunction, BMI-3: Embarrassment); CAMI: Community Attitudes Toward Mental Health Scale (CAMI-1: Goodwill, CAMI-2: Community Mental Health Ideology, CAMI-3: Fear/Exclusion)

(29). Similarly, Henderson et al. (2018) reported that educational interventions increased healthcare workers' confidence in recognizing and managing mental health disorders (30).

Our research findings partially support our second hypothesis. It was determined that there is a difference between the pre-test and post-test scores of the total BMI (p=0.034) and the dangerousness sub-dimension (p=0.046) of the family physicians in the intervention group, while the differences in other sub-dimensions were not significant (p>0.05). According to the post-test results of the CAMI scale, changes were observed in the total scale score (p=0.003) and in the sub-dimensions of benevolence (p=0.001) and fear (p=0.006) among the family physicians in the intervention group. Despite an increase in the score of the ideology sub-dimension (p=0.056), it was determined that the education did not have a sufficient impact (p>0.05). According to the literature, pre-test results indicated that family physicians had more negative attitudes in the dangerousness sub-dimension compared to others and it is noteworthy that the effect of the training was most pronounced in the dangerousness sub-dimension. Similarly, according to the RSTTÖ pre-test results, "fear" was the highest-scoring sub-dimension. However, the positive change in the dimensions of "benevolence" and "fear" after the training indicates that the education was particularly effective in changing the perceptions of danger and fear among family physicians. Family physicians usually deal with a wide range of health conditions and provide extensive counseling to their patients; therefore, shaping their attitudes and perceptions through education can have significant effects on the quality of patient care. Our study found that the educational intervention was effective in addressing negative beliefs and societal attitudes toward mental health issues, although there are aspects that need improvement.

The positive and strong correlations found between the MHLS and its subscales in the study indicate that the training has holistically enhanced physicians' overall knowledge of mental health. The negative relationship between MHLS-1 and CAMI-3 scores suggests that physicians with greater know-

Tablo 4. Control Group's Pre-test vs. Post-test Scores Comparison via Wilcoxon Signed-Rank Test

Parameters	Ranks	N	Mean Rank	Sum of Ranks	Z	p
Pre-MHLS / Post -MHLS	(-)	3	32,32	808	-4999	,041*
	(+)	25	50,57	3287		
	=	65				
Pre-MHLS-1 / Post-MHLS-1	(-)	26	24,58	639	-.230	.023*
	(+)	42	27,48	687		
	=	25				
Pre-MHLS-2 / Post-MHLS-2	(-)	16	22,19	355	-5668	,071
	(+)	18	42,29	2495		
	=	59				
Pre-MHLS-3 / Post-MHLS-3	(-)	27	26,61	718,5	-2018	.064
	(+)	36	36,04	1297,5		
	=	30				
Pre-BMI / Post-BMI	(-)	43	45,42	1953	-.380	.704
	(+)	47	45,57	2142		
	=	3				
Pre-BMI-1 / Post-BMI-1	(-)	39	43,97	1715	-.493	.622
	(+)	46	42,17	1940		
	=	8				
Pre-BMI-2 / Post-BMI-2	(-)	44	39,88	1754,5	-.676	.499
	(+)	43	48,22	2073,5		
	=	6				
Pre-BMI-3 / Post-BMI-3	(-)	35	31,89	1116	-.744	.457
	(+)	28	32,14	900		
	=	30				
Pre-CAMI / Post- CAMI	(-)	6	5	30	-.706	.484
	(+)	6	8	48		
	=	81				
Pre-CAMI-1 Post-CAMI-1	(-)	7	4,29	30	-.267	.789
	(+)	4	9	36		
	=	82				
Pre-CAMI-2 Post-CAMI-2	(-)	4	5,5	22	-1645	.100
	(+)	9	7,67	69		
	=	80				
Pre-CAMI-3 Post-CAMI-3	(-)	7	5,43	38	-1081	.281
	(+)	3	5,67	17	,28	
	=	83				

*P<0,05, MHLS: Mental Health Literacy Scale(MHLS-1. Knowledge, MHLS-2: Belief, MHLS-3: Resource); BMI: The Beliefs Toward Mental Illness scale (BMI-1: Dangerousness, BMI-2: Incurability and Social Dysfunction, BMI-3: Embarrassment); CAMI: Community Attitudes Toward Mental Health Scale (CAMI-1: Goodwill, CAMI-2: Community Mental Health Ideology, CAMI-3: Fear/Exclusion)

ledge are less likely to hold prejudices and stigmatizing attitudes towards individuals with mental health problems. Similarly, the strong negative correlation between MHLS-3 and both BMI-2 and CAMI-3 scores indicates that increased knowledge reduces fear and avoidance behaviors towards individuals with mental health issues. On the other hand, the positive relationship between MHLS-3 and CAMI-2 suggests that there is an increase in positive attitudes toward the treatability of these individuals. These findings demonstrate that mental health literacy education not only enhances knowledge levels but also enables physicians to integrate this knowledge into their clinical practices, fostering more informed and empathetic approaches toward mental health issues. The results suggest that such educational programs may play a significant role in improving the quality of mental health services. No other study in the literature has been found that evaluates all three

Tablo 5. Correlation between MHLS, BMI, and CATMHS Sub-dimensions Post-Test Scores with MHLS Training.

		MHLS-1	MHLS-2	MHLS-3	BMI-1	BMI-2	BMI-3	CAMI-1	CAMI-2	CAMI-3
MHLS-1	r	-	,315**	,260**	0,129	0,141	-0,125	-0,067	0,07	-,173*
MHLS-2	r	-	-	0,056	0,046	0,046	-0,053	0,121	-0,017	-0,091
MHLS-3	r	-	-	-	-0,112	-,296**	-0,084	0,04	,188*	-,223**
BMI-1	r	-	-	-	-	,475**	0,143	-0,047	-,207**	,281**
BMI-2	r	-	-	-	-	-	,525**	0,103	-,256**	,184*
BMI-3	r	-	-	-	-	-	-	,218**	-0,04	0,061
CAMI-1	r	-	-	-	-	-	-	-	-0,025	0,059
CAMI-2	r	-	-	-	-	-	-	-	-	-,601**
CAMI-3	r	-	-	-	-	-	-	-	-	-

Spearman s rho correlation test.** p<0,01, * p<0,05
MHLS: Mental Health Literacy Scale(MHLS-1. Knowledge, MHLS-2: Belief, MHLS-3: Resource); BMI: The Beliefs Toward Mental Illness scale (BMI-1: Dangerousness, BMI-2: Incurability and Social Dysfunction, BMI-3: Embarrassment); CAMI: Community Attitudes Toward Mental Health Scale (CAMI-1: Goodwill, CAMI-2: Community Mental Health Ideology, CAMI-3: Fear/Exclusion)

scales together. However, in a study by Fleary et al. (2022), the relationship between health literacy and beliefs and attitudes towards mental illnesses was investigated, and similar to our findings, a higher level of education was associated with lower stigmatization and increased mental health help-seeking behavior (31). According to the results of a study by Koutra et al. (2024), which used various scales to examine the relationship between mental health literacy (MHL) levels, stigma and help-seeking behavior, individuals with higher MHL levels exhibit more positive attitudes towards mental illness and show lower levels of self-stigma related to seeking help (32).

The literature shows varying results on the effectiveness of anti-stigma education. Some research findings support our study by indicating the positive impact of mental health education on reducing stigma. Most studies targeting physicians have been conducted on medical students. These studies highlight that students exhibit more positive attitudes following psychiatric education and internships (33, 34, 35). A meta-analysis by Mehta et al. (2015) reported that different types of interventions are effective in reducing stigma and discrimination related to mental health (36). Similarly, a study by Reavley et al. (2014) indicated that mental health literacy is associated with reduced stigmatizing attitudes toward individuals with mental illness (37). Conversely, some studies have found no significant impact of education on stigma, suggesting that psychiatric education alone is insufficient to improve medical students' attitudes towards mental health patients, and there are no differences in stigmatizing attitudes between those who received psychiatric education and those who did not (38, 39, 40).

Anti-stigma education can be an important tool in improving societal perceptions of mental health issues and combating stigmatization. To be effective, these educational interventions should be implemented with a long-term and comprehensive strategy. A systematic review by Gronholm et al. (2017) showed that short-term educational interventions have small to moderate effects, similar to our findings (41). Mehta et al. (2015) mentioned various approaches to reducing stigma, including educational programs, social campaigns, media campaigns, and contact-based education, with contact-based education being particularly effective in reducing stigma and discrimination by enhancing interpersonal communication (36). The online education program used in our study was not face-to-face and did not involve contact-based education. To achieve the desired effectiveness in reducing stigma scores, it may be beneficial to evaluate another face-to-face education program, which could contribute to educational and program development efforts.

The research was conducted with those who agreed to participate, which may have led to the participation of individuals with more positive attitudes towards mental illnesses, particularly concerning beliefs and attitudes towards society. The study was limited to the results of the MHLS, CAMI and BMI scales, as well as their sub-dimensions. As a sample education model was not implemented in Turkey, the education was designed as a pilot study. As education is conducted online, the quality of listening among the participants may vary.

In conclusion, our study demonstrates that the mental health education intervention used has the potential to increase the level of mental health literacy, reduce negative beliefs and attitudes, but the decrease in belief and attitude levels is limited, indicating a need for additional interventions and further studies to achieve better results.

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Factors affecting quality of life and hopelessness levels of patients with intravitreal injection

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SUMMARY

Objective: This study aimed to analyse the quality of life, level of hopelessness and factors affecting patients receiving intravitreal injections.

Method: This descriptive and cross-sectional study was conducted between 18.08.2022 and 10.10.2022 with 268 patients in Turkiye. Data were collected with the Personal Information Form, Beck Hopelessness Scale (BHS) and SF-36 Quality of Life Scale. T-test, one-way analysis of variance (ANOVA) and post hoc (Tukey, LSD) analyses were used to analyse the differences in scale levels according to the descriptive characteristics of the patients.

Results: 54.1% of the patients were receiving intravitreal injection treatment for diabetic retinopathy, 28.4% for age-related macular degeneration and 17.5% for branch retinal vein occlusion. The total mean BHS score was 11.45±2.71. Physical pain seems to affect the quality of life the most.

Discussion: This is the first study investigating hopelessness and quality of life in intravitreal injection patients. Hopelessness level of the patients was moderate. The lowest quality of life was found in the emotional role subscale. Age, gender, occupation, educational status and reason for intraocular injections affect the quality of life.

Key Words: Hopelessness, intravitreal injection, patient, quality of life.

INTRODUCTION

Intravitreal injection (IVI) is a treatment method for various retinal diseases. It was first used to treat retinal detachment in 1911. IVI is accepted as a treatment option for a variety of retinal diseases around the world. The substances used in the intravitreal injections are corticosteroids and vascular endothelial growth factor inhibitors (anti-VEGF). Many studies have found that these substances are effective in treating macular edema due to age-related macular degeneration (AMD), diabetic retinopathy (DRP), and retinal vein occlusion (RVO) (1-3). Intravitreal injections are continued at 4-12-week intervals, and patients are given repeated doses based on their different indications, diagnosis, state of progression, and drug selection. The number of patients undergoing IVI has been steadily increasing in recent years (1-3).

IVI treatment, which is used in the diseases encountered in the field of eye diseases, is included in the scope of chronic diseases due to its regular and continuous application in many patients. Chronic diseases are defined as those that usually have a progressive course, require regular care, follow-up, and treatment, and can cause disability in the individual (4, 5). Many negative factors can affect an individual's life, such as living with a chronic disease, overcoming disease symptoms, disabilities caused by the disease, and anxiety about the future. The inability of individuals to perform their responsibilities, roles and duties reduces their self-esteem. Decreased self-esteem leads to situations such as fear of being dependent on someone else and hopelessness. All these factors change the quality of life of the individual (6,7).

The purpose of this study was to examine the quality of life, hopelessness level, and the affecting fac-

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tors of intravitreal injection patients. When the studies on individuals receiving regular IVI for their disease were analysed, it was observed that the literature on patients' quality of life (8,9), and hopelessness levels (4,10), was limited. The aim of this study was to analyse the factors affecting the quality of life, and hopelessness levels of patients receiving intravitreal injections.

METHOD

The population and sample

This descriptive, cross-sectional, and correlational study was carried out between 18.08.2022 and 10.10.2022. The study's population consists of patients who applied for intravitreal injection at an ophthalmology clinic of a training and research hospital in Turkiye. The total number of patients with intraocular injection treatment file records is 800. Using a sampling formula with a known population, the required sample size was calculated as n = 800 (1.96)2 (0.2) (0.8) / (0.5)2 (800-1) + (1.96)2 (0.2) (0.8)= 160 with a 95% confidence interval and ± 5% sampling error for the nonhomogeneous population. The study was carried out with 268 voluntary patients who met the research criteria (receiving intravitreal injection treatment with a diagnosis of DRP, AMD, and Macular Edema due to RVO).

The research questions are given below;

a) How is the quality of life of intravitreal injection patients?

b) What is the hopelessness level of intravitreal injection patients?

c) What are the factors affecting the quality of life and hopelessness level of intravitreal injection patients?

d) Is there a relationship between quality of life and hopelessness level of intravitreal injection patients?

Data Collection

The data was gathered by the researcher using a face-to-face interview method in the patients' room. The research data was gathered via Personal Information Form (13 questions), BHS (20 questions), and SF-36 Quality of Life Scale (36 questions).

Materials

Personal Information Form: It is an information form consisting of 13 questions prepared by the researcher in accordance with the literature (1-3), and containing information about the individuals' sociodemographic characteristics, the reason for intravitreal injection, the number of times they had the intravitreal injection, and whether they have a family member who has been treated with intravitreal injection.

Beck Hopelessness Scale (BHS): The scale was developed by Beck et al. in 1974. Durak and Palabıyıkoglu conducted its validity and reliability study for Turkish in 1994 (11). According to the BHS scale answer key, which includes 11 "correct" and 9 "wrong" answers, "1" point is given for each suitable answer and "0" point is given for each unsuitable answer. According to the scale, answering no to questions 1,3,5,6,8,10,13,15 and 19 counts as 1 point; answering yes to questions 2,4,7,9,11,12,14,16,17,18, and 20 counts as 1 point. The resulting arithmetic sum forms the "Hopelessness Score". BHS does not have a clear scoring system; the potential range of scores is 0 to 20. A score range of 0-3 indicates a minimal level of hopelessness, a score range of 4-8 indicates a low level of hopelessness, a score range of 9-14 indicates a medium level of hopelessness, and a score of 15 and above indicates a high level of hopelessness. The high total score indicates a high level of hopelessness. Cronbach's alpha reliability coefficient was found as 0.85 (11). Cronbach's alpha reliability coefficient of this study was detected as 0.70.

SF-36 Quality of Life Scale: Ware et al. (1992) developed "The Quality of Life Scale (SF-36) (Short Form)", and Kocyigit et al. (1999) conducted its validity and reliability study for Turkish

(12,13). SF-36 is a self-assessment scale. It is comprised of 8 subscales. These subscales include ten questions about "Physical Functioning", two questions about "Social Functioning", four questions about "Role Physical", three questions about "Emotional Role", five questions about "Mental Health", four questions about "Vitality", two questions about "Bodily Pain", and five questions about "General Health" (14). The Cronbach's alpha coefficient of each subscale was calculated independently, and was found to be between 0.7324-0.7612. The results of this scale are scored out of 100. While 100 points indicate good health, low points indicate deterioration in health (15). The Cronbach's alpha reliability coefficient of this study was found as 0.93.

Ethical Approval

In order to conduct the study, Ethics committee approval (Date: 17.08.2022, decision no: 2022/08-33) from Non-Invasive Clinical Research Ethics Committee of the relevant university, institutional permission from the hospital where the study was conducted, and verbal and written informed consent were obtained from the patients participating in the study. The research was conducted in accordance with the Declaration of Helsinki.

Statistics

The research data were evaluated with SPSS 22.0 statistical programme. The descriptive characteristics of the participants were determined using frequency and percentage analyses, while the scale was analysed using mean and standard deviation statistics. Variables were normally distributed. The kurtosis and skewness values were analysed to determine whether the research variables were normally distributed. Data were analysed using parametric methods. Pearson Correlation analysis was used to measure the relationship between two variables. Correlation coefficients (r) were evaluated as 0.00-0.25 very weak; 0.26-0.49 weak; 0.50-0.69 medium; 0.70-0.89 high; 0.90-1.00 very high. T-test and One-Way Analysis of Variance (ANOVA) were used to examine the differences between descriptive characteristics and scale total score and sub-dimensions. Post-hoc (Tukey, LSD) analyses were used for differences within groups. Effect size was calculated using Cohen (d) and Eta squared ($\eta 2$) coefficients. The effect size indicates that the difference between the groups is not large enough to be considered significant. Cohen value 0.2: small; 0.5: medium; 0.8: large, while eta squared value 0.01: small; 0.06: medium; 0.14: large (16). It is considered significant when $p<0.05$.

RESULTS

The age average of the patients is 64.18±9.75 (39-83) (Min=39; Max=83). 54,9% of the patients are female, 45.1% are male, 81.7% are members of a nuclear family, 41,4% reside in downtown, 48.2% have 2 children, 49.6% are retired, 38.1% are primary school graduates, and 57.5% have less income than their expenses (Table 1).

The patients' mean total hopelessness" is 11.45±2.71, their mean "feelings about the future" is 1.97±0.99, their mean "loss of motivation" is 5.58±1.29, and their mean "future expectations" is 3.29±0.68.

The age range of the patients affects total hopelessness, feelings about the future, loss of motivation and future expectations. The number of intravitreal injections administered to the patients affects the future expectations subscale of the hopelessness scale ($p<0.05$) (Table 2).

The following are the patients' mean scores for the SF-36 Quality of Life scale subscales: "physical functioning" is 75.97±32.95, "role physical" is 53.73±47.21, "bodily pain" is 87.25±10.16, "general health" is 56.06±15.60, "vitality" is 54.42±7.21, "Social functioning" is 83.21±22.49, "emotional role" is 50.75±16.68, and "mental health" is 57.76±6.23 (Table 3).

The age range of the patients has a relationship with general health, vitality and mental health. Gender, educational status and reason for injection affect physical functioning, role physical, general health, social function and emotional role. Occupation has an effect on physical functioning, physical role, general health and emotional role

Table 1. Distribution of Patients According to Descriptive Characteristics.

	Mean–SD
Age	64.180–9.759
	N (%)
Age	
50 And Below	29(10.8)
51-60	53(19.8)
61-70	109(40.7)
Over 70	77(28.7)
Gender	
Female	147(54.9)
Male	121(45.1)
Family Type	
Core	219(81.7)
Wide	49(18.3)
Where lived	
Village/town	75(28.0)
District	82(30.6)
City Centre	111(41.4)
Number of Children	
1	12(4.5)
2	130(48.5)
3 And Above	126 (47.0)
Profession	
Employee (civil servant Labourer Freelance)	29(10.8)
Pensioner	133(49.6)
Unemployed	106(39.6)
Education Status	
Illiterate	38(14.2)
Literate	68(25.4)
Primary School	102(38.1)
Middle School	16(6.0)
High School	24(9.0)
University	20(7.5)
Economic Situation	
Income Less Expenditure	154(57.5)
Equal and Excess	114(42.5)

(Table 4).

A weak negative correlation was discovered between all of the subscales of the SF-36 quality of life scale and all of the subscales of the Hopelessness scale ($p=0.000<0.05$) (Table 5).

DISCUSSION

The hopelessness of intravitreal injection patients was found to be moderate. Intravitreal injection is a procedure performed in patients diagnosed with macular oedema due to AMD, DRP and RVO and is a treatment process lasting 4 to 12 weeks. This may reduce the patients' hope for treatment and recovery (17). It was also stated in the literature that intravitreal injection patients experience hopelessness, lose their hopes for recovery, lose motivation, lose consistency with treatment and are affected mentally due to psychological disorders such as depression (7, 10, 18).

In this study, it was observed that the hopelessness level increased in the hopelessness scale total score and all of its subscales as the age of the patients increased. According to a study conducted by Enoch et al., patients over the age of 50 get hopeless upon the intravitreal injection treatment plan (10). In the study conducted by Deswal et al. with two hundred and fifty intravitreal patients, with an average age of 57, and psychological disorder morbidity was mentioned, as well as the diseases that required intravitreal injections (17).

Patients' future expectations decrease as the number of injections increases. Verrecchia et al. discovered a positive correlation between the number of injections and patients' hopelessness and loss of motivation in their study on repeating intravitreal injections (19). According to another study, an increase in the number of injections and excessive time spent in the hospital causes hopelessness in patients (10).

The scores of general health, vitality, and mental health subscales of the SF-36 quality of life scale decrease as the age increases. Individuals with vision problems or loss tend to withdraw from social activities and reduce their physical activity. While living an involuntary isolated life has an

Table 2. Differentiation of Hopelessness Scores by descriptive characteristics.

Demographic Features	n	Hopelessness Total	Feelings About the Future	Loss of Motivation	Future Expectations
Age		Mean–SD	Mean–SD	Mean–SD	Mean–SD
50 and less	29	10.28–2.83	1.59–0.95	5.21–1.63	3.07–0.65
51-60	53	10.36–2.27	1.60–0.91	5.26–1.15	3.11–0.42
61-70	109	11.54–2.77	2.00–0.91	5.58–1.36	3.35–0.77
Over 70	77	12.52–2.44	2.32–1.06	5.96–1.04	3.44–0.66
F		9.54	7.68	4.25	3.85
p		0.000	0.000	0.006	0.010
PostHoc		3>1, 4>1, 3>2, 4>2, 4>3 (p<0.05)	3>1, 4>1, 3>2, 4>2, 4>3 (p<0.05)	4>1, 4>2, 4>3 (p<0.05)	3>1, 4>1, 3>2, 4>2 (p<0.05)
The Number of Intravitreal Injections					
1-5	83	11.37–2.50	1.94–0.95	5.67–1.31	3.13–0.58
6-10	71	11.48–2.37	2.04–0.90	5.58–1.18	3.25–0.53
11-15	41	10.98–3.04	1.73–1.02	5.41–1.41	3.24–0.58
15 and more	73	11.78–3.05	2.07–1.10	5.59–1.32	3.56–0.88
F		0.80	1.18	0.37	5.74
p		0.493	0.319	0.775	0.001
PostHoc		4>1, 4>2, 4>3, 1>3, 2>1, 2>3 (p>0.05)	4>1, 4>2, 4>3, 2>1, 2>3, 1>3 (p>0.05)	1>2, 1>3, 1>4, 4>2, 4>3, 2>3 (p>0.05)	4>1, 4>2, 4>3 (p<0.05)

F: One-Way Analysis of Variance (ANOVA); PostHoc: LSD, p<0.05

Table 3. The mean scores of the SF-36 Quality of Life Scale.

	n	Mean–SD	Min.-Max.	Kurtosis	Skewness
Physical Functioning	268	75.97–32.95	0.00-100.00	-0.17	-1.03
Role Physical	268	53.73–47.21	0.00-100.00	-1.03	-0.14
Bodily Pain	268	87.25–10.16	0.00-90.00	0.87	0.85
General Health	268	56.06–15.60	10.00-92.00	-0.71	-0.21
Vitality	268	54.42–7.21	0.00-85.00	0.99	-1.16
Social Functioning	268	83.21–22.49	0.00-100.00	1.87	-1.54
Emotional Role	268	50.75–16.68	33.33-66.67	-1.13	-0.09
Mental Health	268	57.76–6.23	28.00-88.00	0.84	0.05

impact on their general health, it can also have an impact on their mental health. Patients receiving intravitreal injections may experience a decline in quality of life as they age (17). According to the findings of the study conducted by Inan et al., general health and mental health scores were significant by age (20). In their study about patients with AMD, Enoch et al. reported that patients experienced hopelessness and depression and their quality of life declined (10). According to a qualitative study regarding the life experiences of patients who were diagnosed with macular degeneration, there was a decline in their quality of life due to their diseases (4).

This study discovered that women with AMD, DRP, or macular edema due to RVO were affected much more than men in terms of physical functio-

Table 4. Differentiation of Quality of Life Scale Scores based on descriptive characteristics.

Demographic Features	n	Physical Functioning	Role Physical	Bodily Pain	General Health	Vitality	Social Functioning	Emotional Role	Mental Health
Age		Mean–SD	Mean–SD	Mean–SD	Mean–SD	Mean–SD	Mean–SD	Mean–SD	Mean–SD
50 and Less	29	87.93–27.14	68.10–44.27	87.93–.72	64.48–15.33	57.93–9.21	87.93–22.78	56.32–15.69	60.97–8.53
51-60	53	78.02–33.43	59.43–.79	87.30–8.57	57.09–14.73	55.28–6.46	85.38–21.75	49.69–16.82	58.04–5.24
61-70	109	72.75–36.13	53.21–47.15	86.31–13.42	54.77–14.73	53.76–7.88	79.93–25.69	50.46–16.74	57.28–6.44
Over 70	77	74.61–29.15	45.13–48.33	88.27–6.44	54.00–16.66	53.44–5.27	84.58–17.19	49.78–16.77	57.04–5.21
F		1.75	2.03	0.61	3.70	3.41	1.46	1.25	3.23
p		0.158	0.110	0.608	0.012	0.018	0.225	0.292	0.023
PostHoc		1>2, 1>3, 1>4 (p>0.005)	1>2, 1>3, 1>4 (p>0.05)	4>1, 4>2, 4>3 (p>0.05)	1>2, 1>3, 1>4 (p<0.05)	1>3, 1>4 (p<0.05)	1>2, 1>3, 1>4 (p>0.05)	1>2, 1>3, 1>4 (p>0.05)	1>2, 1>3, 1>4 (p<0.05)
Gender									
Female	147	68.16–36.23	44.389–44.43	86.41–12.16	52.29–15.46	53.91–7.39	78.66–24.92	46.48–16.35	57.12–5.71
Male	121	85.45–25.58	65.08–44.54	88.26–6.90	60.64–14.57	55.04–6.97	88.74–17.71	55.92–15.64	58.55–6.75
t		-4.42	-3.65	-1.49	-4.51	-1.28	-3.74	-4.79	-1.88
p		0.000	0.000	0.118	0.000	0.202	0.000	0.000	0.061
Occupation									
Employee (Officer, Worker, Freelance)	29	82.59–33.24	73.28–40.60	84.10–19.70	64.76–18.45	54,48–15,72	87,07–26,83	57.47–15.16	59.45–11.65
Retired	133	79.51–29.88	56.58–47.26	87.69–8.13	56.96–14.37	54.36–5.16	84.21–19.94	52.13–16.59	58.10–5.47
Unemployed	106	69.72–35.73	44.81–47.15	87.55–8.52	52.55–15.30	54.48–5.73	80.90–24.16	47.17–16.50	56.87–4.81
F		3.32	4.75	1.57	7.79	0.01	1.12	5.42	2.38
p		0.038	0.009	0.210	0.001	0.991	0.328	0.005	0.095
PostHoc		2>3 (p<0.05)	1>3 (p<0.05)	2>3 (p>0.05)	1>2, 1>3, 2>3 (p<0.05)	1>2, 3>2 (p>0.05)	1>3 (p>0.05)	1>3, 2>3 (p<0.05)	1>3 (p>0.05)
Educational Status									
Illiterate	38	63.16–36.18	32.89–45.43	87.13–9.19	46.71–14.99	53.16–5.12	71.71–26.10	46.49–16.51	57.16–4.64
Literate	68	77.21–31.66	54.04–49.17	88.68–8.46	52.88–14.26	54.26–5.48	84.93–19.14	50.98–16.76	57.47–4.78
Primary School	102	72.79–34.95	51.47–46.38	85.43–12.80	56.98–15.91	54.02–8.36	82.35–23.56	49.35–16.74	57.18–7.44
Secondary School	16	80.94–24.78	60.94–46.52	90.00–0.00	55.87–11.71	54.69–9.74	93.75–10.21	50.00–17.21	58.25–6.53
Highschool	24	95.00–14.14	72.92–41.65	89.25–2.03	64.33–12.42	56.87–7.19	87.50–22.12	54.17–16.48	60.33–7.17
University	20	85.50–31.53	75.00–40.55	87.25–10.97	70.15–10.71	56.25–7.05	90.00–20.52	61.67–12.21	59.40–4.36
F		3.52	3.35	1.35	9.20	1.12	3.49	2.64	1.40
p		0.004	0.006	0.242	0.000	0.349	0.004	0.024	0.223
PostHoc		2>1, 5>1, 6>1, 5>2, 5>3 (p<0.05)	2>1, 3>1, 4>1, 5>1, 6>1, 5>3, 6>3 (p<0.05)	2>1, 4>1, 5>1, 6>1 (p>0.05)	2>1, 3>1, 4>1, 5>1, 6>1, 5>2, 6>2, 5>3, 6>3, 6>4 (p<0.05)	2>1, 3>1, 4>1, 5>1, 6>1 (p>0.05)	2>1, 3>1, 4>1, 5>1, 6>1 (p<0.05)	6>1, 6>2, 6>3, 6>4 (p<0.05)	2>1, 3>1, 4>1, 5>1, 6>1 (p>0.05)
Reason for Injection									
Diabetic Retinopathy	145	71.14–34.76	44.83–48.31	86.34–11.95	53.48–15.62	53.97–6.97	79.91–23.21	47.13–16.47	57.46–5.75
Age-Related Macular Degeneration	76	80.66–29.67	60.85–45.89	88.41–6.41	57.84–15.53	54.54–6.17	86.18–21.07	52.63–16.57	58.05–6.28
Macular Edema due to Branch Retinal Vein Occlusion	47	83.30–30.35	69.68–40.02	88.15–8.90	61.13–14.26	55.64–9.24	88.56–21.15	58.86–14.27	58.21–7.54
F		3.56	6.37	1.26	5.10	0.97	3.62	10.11	0.37
p		0.030	0.002	0.286	0.007	0.381	0.028	0.000	0.690
PostHoc		2>1, 3>1 (p<0.05)	2>1, 3>1 (p<0.05)	2>1, 3>1 (p>0.05)	2>1, 3>1 (p<0.05)	2>1, 3>1 (p>0.05)	2>1, 3>1 (p<0.05)	2>1, 3>1, 3>2 (p<0.05)	2>1, 3>1 (p>0.05)

F: One-Way Analysis of Variance (ANOVA); t:Independent Samples T-Test; PostHoc:Tukey, LSD

Table 5. Correlation analysis of patients Quality of Life and Hopelessness Scale Scores.

		Hopelessness Total	Feelings About the Future	Loss of Motivation	Future Expectations
Physical Functioning	r	-0.085	-0.047	-0.062	-0.063
	p	0.168	0.448	0.310	0.305
Role Physical	r	-0.170**	-0.135*	-0.101	-0.131*
	p	0.005	0.027	0.101	0.032
Bodily Pain	r	-0.031	-0.038	-0.018	-0.007
	p	0.611	0.537	0.774	0.904
General Health	r	-0.209**	-0.165**	-0.160**	-0.135*
	p	0.001	0.007	0.009	0.027
Vitality	r	-0.268**	-0.321**	-0.130*	-0.239**
	p	0.000	0.000	0.033	0.000
Social Functioning	r	-0.062	-0.027	-0.045	-0.017
	p	0.314	0.664	0.460	0.783
Emotional Role	r	-0.152*	-0.036	-0.145*	-0.140*
	p	0.013	0.554	0.018	0.021
Mental Health	r	-0.279**	-0.216**	-0.259**	-0.265**
	p	0.000	0.000	0.000	0.000

*<0,05; **<0,01; Pearson Correlation Analysis

ning, general health, social functioning, and emotional role. According to a study analyzing the relationship between the quality of life of patients with macular degeneration and sociodemographic data, women were much more affected by their eye disease (21). Another study that examined the quality of life of the patients with macular degeneration mentioned that women with eye diseases were more affected mentally than men (22).

It was discovered that the majority of the patients who participated in the study were not actively working or were retired. The physical functioning, physical role, and general health subscale scores on the SF-36 quality of life scale were lower in these patients. This situation could be attributed to the patients' advanced age, poor economic conditions as a result of not working, vision problems and an elderly sedentary lifestyle. According to the study by Deswal et al., the lack of physical activity and social isolation due to visual impairment, as well as poor economic status, have a negative impact on the quality of life of retired patients in old age (17). Another study discovered striking results that the patients, the majority of whom were retired or unemployed, received low scores on all subscales of the quality of life The role physical, physical activity, and general health subscales had the lowest scores (20).

As the educational status of the patients who participated in the study increases, so do their scores on the subscales of physical functioning, general health, social functioning, and emotional role subscales of the SF-36 quality of life scale. An individual with a higher level of education is expected to have higher social roles and functioning. The higher level of income and social interactions, as a result of educational status makes it possible to have a high quality of life in patients with higher education. In their study, Bian et al. reported that quality of life also increased in patients with higher education level (23). In some studies, however, it is stated that educational status does not have an impact on the quality of life (17, 24).

In this study, there were significant differences in the SF-36 quality of life subscale scores of patients who were diagnosed with AMD, DRP, and macular edema due to RVO depending on the reason for injection. Macular edema due to RVO, AMD, and DRP affect the quality of life of the patients, respectively. There are studies in the literature that macular edema due to RVO (25-27), AMD (28, 29), and DRP (17, 24), all have a negative impact on patients' quality of life. Macular oedema due to RVO has a much greater impact on patients' quality of life compared to other diagnoses. This greater impact is thought to be due to the sudden onset of the disease. Patients diagnosed with diabetes are aware that their eyes may be affected during the course of the disease. Older people can anticipate that their vision will deteriorate. However, because people with macular oedema due to RVO experience this unexpectedly, their quality of life may be more affected.

There was a weak negative correlation between all of the subscales of SF-36 quality of life scale and all of subscales of the hopelessness scale of the patients participating in the study. A negative correlation was found between the patients' quality of life and their psychological disorders, in a study examining vision-related quality of life in patients diagnosed with retinal disease who underwent intravitreal injection (9). Deswal et al. also found

that patients with high quality of life experience less hopelessness and motivation loss (17). The results of Rezapour et al.'s study on the prevalence of depression and anxiety in AMD patients show parallelism (30).

The limitations of this study are that it was conducted in a single centre. It is recommended that studies with a larger sample size and in more than one centre should be conducted in order to understand the effect of intravitreal injection on patients more clearly.

In conclusion, this is the first study to investigate hopelessness and quality of life in intravitreal injection patients. Hopelessness levels of the patients were moderate. Age of the patients affected all subscales of the hopelessness scale. High number of intravitreal injections decreases the future expectations subscale of the hopelessness scale. The lowest quality of life was found in the emotional role subscale. Age, gender, occupation, educational status and the reason for intravitreal injection are effective on quality of life. In order to prevent the mental state of the patients from being negatively affected by the disease process, it is recommended that they should be directed to a professional where they can receive psychiatric support after diagnosis and that the patient's social support mechanisms should be active.

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Evaluation of the frequency and clinical features of comorbid adult separation anxiety disorder in patients with generalized anxiety disorder

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SUMMARY

Objective: The aim of this study is to examine the frequency and clinical features of comorbid Adult Separation Anxiety Disorder (ASAD) in patients with Generalized Anxiety Disorder (GAD).

Method: A total of 80 patients with GAD according to DSM-5 were included in the study. All patients were administered the Sociodemographic Characteristics Form, the Separation Anxiety Symptom Inventory (SASI), the Beck Depression Inventory (BDI), the Beck Anxiety Inventory (BAI), and the Adult Separation Anxiety Symptom Questionnaire (ASA). Patients with GAD were grouped and compared as those with and without comorbid ASAD.

Results: Of the 80 patients diagnosed with GAD, 33 (41.3%) had comorbid ASAD. Age, depressive symptom level and ASAI score were found to be significantly related to anxiety level (β=0.328, p=0.001; β=0.273, p=0.007; β= 0.284, p=0.014, respectively). When the factors affecting the anxiety level are taken into consideration, a 1-unit increase in the age variable causes an increase of 0.013 units, a 1-unit increase in the depressive symptom level causes an increase of 0.013 units, and a 1-unit increase causes an increase of 0.013 units. It was found that ASA scores caused an increase of 0.008 units.

Discussion: Questioning the diagnosis of ASAD during the diagnosis and treatment process of patients with GAD may affect the course of the illness.

Key Words: Separation anxiety disorder, anxiety, generalized anxiety disorder, comorbidity, adults

INTRODUCTION

Adult separation anxiety disorder (ASAD) is a clinical diagnosis presenting symptoms of marked fear and anxiety, restlessness, and worry that something bad will happen when they are away from family members in adulthood (1). Separation anxiety is a state in which a person experiences extreme anxiety in the event of separation or in anticipation of separation from primary attachment figures. Those with separation anxiety make great efforts to avoid being away from their loved ones. The worry that something will happen to their relatives negatively affects the daily lives of individuals (2).

The relationship established with the caregiver in childhood is necessary for the child to continue his life. With the secure attachment established and the physical needs that decrease over time, the baby begins to differentiate from the caregiver and explore the environment in a safe environment. Although the separation from a caregiver in childhood is an anxious process, the child's discovery of the environment with a sense of curiosity gradually increases. This anxiety, related to separation from the caregiver, gradually decreases in advanced ages (3). During the transition to adulthood, the decrease in family dependency, autonomy, and responsibilities for adult life increases. With the increase in these responsibilities, separation, and individuation can be difficult from time to time. The restrictive parent approach and the lack of secure attachment make it difficult to separate from the family in adulthood (4).

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The inability to separate from family ties and adult separation anxiety, and incomplete individualization makes it difficult for the person to adapt to both daily relationships and social life. The frequency of mental pathology increases in individuals whose individualization is incomplete (5). While separation anxiety disorder (SAD) was evaluated as a childhood mental disorder in the Diagnostic And Statistical Manual of Mental Disorders–IV (DSM–IV), it has been also defined for adulthood in the DSM–5. This diagnosis classification emphasizes that separation anxiety is not only limited to childhood but can also be seen in adolescence and adulthood. Previous studies had shown that separation anxiety is not only a childhood diagnosis, but some cases also begin in adulthood (6,7). However, ASAD is still not a well-known disease, and information on its etiology, clinical presentation, epidemiology, and treatment is limited.

Anxiety is a constant state of worry that accompanies some physical symptoms in the body. Although there is no obvious danger, the person has anxiety and fears that something bad will happen. Physical symptoms such as nausea, palpitations, sweating, and restlessness are often accompanied. Generalized anxiety disorder (GAD) is anxiety symptoms such as restlessness and fear that something bad will happen almost every day for at least six months. It is included in the classification of anxiety disorders in DSM–5 (8).

This patient group can often refer to physicians other than psychiatrists with their physical symptoms. For this reason, GAD one of the anxiety disorders frequently encountered in the clinic, can sometimes be overlooked. GAD is often accompanied by an additional diagnosis of mental illness, such as depressive disorder and panic disorder (9,10). Although the rate of comorbidity of GAD with mental disorders is high, the most researched comorbidity is depressive disorder. Studies investigating the comorbidity rates of GAD with other mental illnesses are less numerous in the literature (11). When the symptoms of ASAD are examined, core symptoms of anxiety are observed (2). The prevalence rate of ASAD has been reported as 6.6%. However, separation anxiety comorbidity is found to be higher in anxiety disorders (23-65%). (12-17). Recent studies have shown that ASAD has a high rate of comorbidity with other mental disorders and has a negative impact on prognosis and treatment response (18-20). The coexistence of ASAD and GAD has not been adequately investigated. On the other hand, it is not clear whether GAD and ASAD are separate diagnoses or a condition in which intertwined anxiety symptoms occur together (21).

The aim of this study was to investigate the frequency and clinical features of comorbid ASAD in GAD with patients. It was aimed to better understand the diagnosis and clinical presentation of ASAD and to contribute to the literature on the subject.

METHODS

Participants

Our study was designed as a cross-sectional observational, descriptive research. Among those who applied consecutively to Recep Tayyip University Faculty of Medicine Psychiatry Outpatient Clinic between 01.10.2022-01.03.2023, a total of 80 patients, who met the inclusion criteria, were diagnosed with GAD and ASAD according to Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) criteria, and aged between 18 and 65, were included in the study. Patients with GAD were grouped and compared as those with and without comorbid ASAD.

As a criterion for inclusion in the study; it was determined as being able to literate, not having a condition that hinders hearing and communication, not having other comorbid mental disorders and chronic physical diseases, and not having used psychotropic medication in the last two years. Those who did not volunteer to participate in the study, those who were illiterate, younger than 18 years of age, older than 65 years of age, those with chronic physical diseases such as mental retardation, alcohol substance use disorder, dementia, neurodegenerative diseases, diabetes mellitus, chronic obstructive pulmonary disease, heart failure, and those currently using psychotropic medications were not included in the study.

Ethics statement

The ethics committee approval of the research was obtained. In addition, the 1964 Declaration of Helsinki and its subsequent revisions or similar ethical standards were adhered to at all stages of the study. Patients who met the inclusion criteria were informed about the study and written and verbal consent was obtained.

Data Collection Tools

DSM-5 Structured Clinical Interview-Clinical Version (SCID-5): The Structured Clinical Interview for DSM-5 Disorders was developed by First et al. in 2015 (22). Turkish validity and reliability study was conducted by Elbir et al. There are detailed diagnostic criteria in 32 diagnostic categories, and only exploratory questions are included in 17 diagnostic categories. Kappa coefficients for inter-rater reliability were found to be between 0.65 and 1.00, and all were found to be statistically significant (23).

Sociodemographic Data Form: It is a form prepared by us used to collect information about the demographic characteristics of patients such as age, gender, marital status, education level, and occupation.

Separation Anxiety Symptom Inventory (SASI): It was developed by Silove et al. in 1993 to evaluate the symptoms of separation anxiety in the period under 18 (24). It consists of 15 items. This scale investigates symptoms of separation anxiety that have developed since childhood. Turkish validity and reliability were made by Diriöz et al. (25).

Beck Depression Inventory (BDI): It was developed by Beck et al. in 1961 (26). The scale consists of 21 items and questions about the level of depression. It is a self-report scale. Increased scores are associated with increased levels of depression. Turkish validity and reliability were made by Hisli in 1989 (27). The Cronbach alpha value of the scale, which had good internal consistency in the Turkish sample, was found to be 0.79 in our sample.

Beck Anxiety Inventory (BAI): It was developed by Beck et al. in 1988 (28). It is a scale that evaluates the person's anxiety level consisting of 21 questions. Increased scores are associated with increased anxiety levels. Turkish validity and reliability were made by Ulusoy et al. (29). The Cronbach alpha value of the scale, which has a valid internal consistency, was calculated as 0.74 in our sample.

Adult Separation Anxiety Questionnaire (ASA): Developed in 2003 by Manicavasagar et al. (30) Turkish validity and reliability were made by Selbes et al.(31) It is a self-report scale consisting of 27 items, with increased scores associated with increased levels of separation anxiety. The Cronbach alpha value for our sample of the scale, which has good internal consistency in the validity reliability analysis, is 0.82.

Statistical Analysis

The research data was analyzed via SPSS for Windows 25.0. Descriptive statistics were presented as mean±standard deviation, frequency distribution, and percentage. The conformity of the variables to the normal distribution was examined using histogram and Kolmogorov-Smirnov Test. Ln and square root exchanges were made for the data that did not meet the normality assumption. The square test was used to compare categorical data. An independent sample t test was used to evaluate the statistical difference between two independent groups. A linear regression model was established to determine the predictive power of different variables for anxiety levels. Statistical significance level was accepted as $p<0.05$.

RESULTS

Of the 80 patients with GAD included in the study, 15 (31.9%) were male, 32 (68.1%) were female, and the mean age was 40.47±13.36 years. 33 (41.3%) of the patients met the diagnostic criteria for ASAD. Of the patients with comorbid ASAD, 2 (6.1%) were male, 31 (93.9%) were female, and the mean age was 39.58±13.34 years. A statistically significant difference was found between the two groups in terms of gender ($p=0.006$). The distribution of sociodemographic and clinical characteristics of the study groups is given in Table 1.

Table. 1. Demographic and clinical characteristics of the study groups

		GAD Group (n=47)		GAD and ASAD Group (n=33)		p
		min-max	Mean–SD	min-max	Mean–SD	
Age (mean(SD) years		19-62	40.47–13.36	18-60	39.58–13.34	0.769
		n	%	n	%	
Sex	male	15	31.9	2	6.1	0.006*
	female	32	68.1	31	93.9	
Marital status	single	16	34	8	24.2	0.346
	married	31	66	25	75.8	
Education	primary school	20	42.6	13	39.4	0.917
	high school	15	31.9	12	36.4	
	university	12	25.5	8	24.2	
Occupation	unemployed	33	70.2	19	57.6	0.243
	employee	14	29.8	14	42.4	
total		47	58.8	33	41.3	

GAD: General Anxiety Disorder
ASAD: Adult Seperation Anxiety Disorder
independent sample t test. chi square. fisher exact test

There was a significant difference between the mean scores of ASAI and s SASI of patients with a diagnosis of GAD and patients with a diagnosis of GAD and ASAD ($p<0.001$). Patients with a diagnosis of GAD and ASAD had statistically significantly higher ASA and SASI scores than patients with only GAD diagnosis. There was no significant difference between the BDI and BAI scale scores of the two patient groups ($p=0.532$; $p=0.126$, respectively), comparison of the scale scores of patients with ASAD and without ASAD was presented in (Table 2).

Regarding the anxiety level, the regression model was created by age, gender, BDI, ASA, and SASI was statistically significant ($F=6.512$; $p=<0.001$). Age, depressive symptom level, and ASA variables were significant for anxiety level ($\beta=0.328$, $p=0.001$; $\beta=0.273$, $p=0.007$; $\beta= 0.284$ $p=0.014$, respectively). An increase of 1 unit in the age variable leads to an increase of 0.013 units in the anxiety level, an increase of 0.013 units in the level of depressive symptoms, and an increase of 1 unit in the ASA scores leads to an increase of 0.008 units. The Regression Model was shown in Table 3.

DISCUSSION

This study investigated how the frequency of comorbid ASAD and the severity of separation anxiety affected anxiety symptoms in patients with GAD. When the sociodemographic data of the patients were examined, no statistically significant difference was found in demographic data other than gender between the group with only GAD diagnosis and the group with GAD and ASAD diagnoses. The female gender ratio was found to be higher in the group with comorbid ASAD diagnosis for GAD. Previous studies on the subject have also reported that ASAD is more common in female patients (32, 33). It has also been reported that women constitute a higher risk group for ASAD and that higher anxiety symptoms are observed in female patients (34). Being female and having symptoms of depression are among the risk factors for ASAD (7,11,12). In our study, it was found that 41.3% of patients with GAD had a comorbid ASAD diagnosis and that adult anxiety symptoms increased GAD symptoms. Data on ASAD are limited. However, in a large-sample study investigating the relationship between ASAD and GAD, it was reported that 20.7% of patients applying to an anxiety disorder outpatient clinic had separation anxiety in childhood and 21.7% had adult-onset ASAD (18).

In another study investigating the relationship between GAD and ASAD, this rate was reported as 45.2% (19). Although separation anxiety in childhood is thought to increase the risk of panic disorder in adulthood, separation anxiety is a risk factor for all anxiety disorders (7, 13). ASAD is a newly defined disorder for adults in DSM-5. Since it was previously considered only a childhood disorder, data on adulthood are limited. However, studies

Table 2. Comparison of The Scale Scores in Study Groups

Scale	GAD group	GAD and ASAD group	t	p[1]
	mean–SD	mean–SD		
BDS	17.30–12.59	17.27–10.25	0.603	0.532
BAS	28.87–14.90	32.39–12.60	1.473	0.126
ASA	23.17–13.67	46.18–16.57	6.300	<0.001*
SASI	11.66–07.65	19.64–10.12	3.971	<0.001*

[1]: Independent Sample t Test. *p<0.01
BDS: Beck Depression Scale. BAS: Beck Anxiety Scale
ASA: Adult Seperation Anxiety Inventory.
SASI:Seperation Anxiety Symptom Questionnaire

Table.3. The Effect of Sociodemographic Data and Separation Anxiety on Anxiety Level

	Beta[1] (%95 CI)	SE	Beta[2]	t	p	Zero	Partial	VIF
(Constant)	2.168(1.734-2.602)	0.218		9.955	<0.001			
Age	0.013(0.005-0.021)	0.004	0.328	3.337	0.001	0.313	0.362	1.030
Gender (female)	0.078(-0.180-0.337)	0.130	0.060	0.603	0.548	0.161	0.070	1.053
BDS	0.013(0.004-0.022)	0.005	0.273	2.758	0.007	0.326	0.305	1.041
SASI	0.003(-0.010-0.015)	0.006	0.046	0.424	0.673	0.185	0.049	1.269
ASA	0.008(0.002-0.015)	0.003	0.284	2.530	0.014	0.338	0.282	1.345

F=6.519; p=<0.001; R^2=0.259; SE of Estimate=0.46304; [1]: Unstandardised Coefficient ; [2]: Standardised Coefficient ; Durbin-Watson= 2.225

BDS: Beck Depression Scale. SASI: Seperation Anxiety Symptom Inventory. ASA: Adult Seperation Anxiety Questionnaire

have shown that it is also commonly seen in adults (33, 35, 36). These results support the findings of our study. On the other hand, the high comorbidity of GAD and ASAD may mean that one disorder may trigger or facilitate the emergence of the other. If, in terms of developmental history, ASAD triggers GAD, a high rate of GAD should be found in patients with adult separation anxiety. However, some studies have found that the comorbidity rates of GAD in ASAD are quite low. For example, Nestadt et al. (37) found comorbidities of generalized anxiety disorder in 3.7% of patients with adult separation anxiety disorder and major depressive disorder in 2.6%. Karaytuğ et al. (20) found psychiatric comorbidities in 81.3% of patients with adult separation anxiety disorder (major depression 29%, panic disorder 17.8%, obsessive-compulsive disorder-OCD 16.8%, agoraphobia 11.2%, bipolar disorder 6.5%). The results of these studies are not consistent with the findings of our study. DSM-5 recommends that if a patient has symptoms of more than one psychiatric disorder, a separate diagnosis should be made for each symptom group. In the differential diagnosis of GAD and ASAD, the stressor that triggers anxiety should be well determined. In separation anxiety disorder, the primary stressor is the anxiety of separation from the person to whom the person is attached. Nevertheless, the fact that GAD and ASAD diagnoses contain similar symptoms makes it difficult to distinguish between the two diagnoses. Most of the time, the ASAD diagnosis is not recognized and can only be evaluated as GAD, or the GAD diagnosis can be ignored in patients with an ASAD diagnosis. In other words, it may not always be possible to distinguish two different psychiatric disorders that share the same symptoms.

ASAD is seen as a continuation of childhood separation anxiety symptoms. In our study, the separation anxiety symptoms of the patients in childhood were evaluated with SASI and no statistically significant relationship was found between GAD symptoms and SAD. This finding confirms the idea that in a significant portion of the cases, separation anxiety symptoms begin in adulthood rather than in childhood. However, both ASA and SASI scores were found to be higher in the group with GAD and comorbid ASAD diagnoses than in the group without ASAD diagnosis. In line with these findings, it can be thought that individuals with SAD in childhood may show more ASAD symptoms in the future. Similar results have been obtained in studies conducted on the subject (5,6,33).

Separation fear, which is mostly directed towards parents in childhood, may be related to difficulties experienced in separation from loved ones in adulthood. The core symptom, separation anxiety, may be difficult to distinguish from anxiety disorder symptoms. Both involve a constant state of anxiety and restlessness. Therefore, ASAD symptoms may not be noticed among the existing anxiety symptoms in patients with GAD, and the ASAD diagnosis may be overlooked. Studies show that comorbid ASAD reduces treatment response rates and increases the likelihood of anxiety symptoms recurring in patients with anxiety disorders (12, 34, 38). Therefore, it is important to question the diagnosis of ASAD in the diagnosis and treatment process of anxiety disorders (19, 20, 39).

Another finding of our study is that anxiety levels increase with increasing depressive symptoms. Consistent with our research findings, many studies have shown that depression is a risk factor for anxiety disorders and negatively affects prognosis (9, 14, 18). It has also been reported that the incidence of ASAD increases in patients diagnosed with major depression, similar to GAD (14).

This study has some limitations. Due to the cross-sectional nature of the study and the fact that it was conducted in a single center, the findings cannot be generalized. At the same time, it is not possible to

establish a cause-and-effect relationship with the current findings. In addition, other factors that predict anxiety disorders were not included in the study. However, it is important that the study sample was created meticulously and that each case was evaluated face to face and in detail. Another advantage of the study is that there is limited data in the existing literature on the subject.

GAD is a chronic mental disorder that seriously reduces the quality of life of patients and can make it difficult for the person to continue their daily life activities, and can prevent success in areas such as work life, school performance or personal relationships. Other comorbid mental disorders are frequently observed in patients diagnosed with GAD. Other accompanying factors should be considered in detail during the GAD treatment process and comorbid mental disorders should also be included in the treatment process. ASAD diagnosis negatively affects GAD prognosis and comorbid ASAD diagnosis is associated with decreased response to treatment. The distinction between ASAD and GAD symptoms can often be difficult and ASAD diagnosis can be overlooked in patients with anxiety symptoms. It is noteworthy that a high rate of comorbid ASAD was detected in patients diagnosed with GAD in our study. Data on ASAD, a newly defined diagnosis for adulthood, are limited in the literature and therefore further research with a large sample is needed on the subject.

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Rapid tranquilization experiences of Turkish psychiatrists: A preliminary online survey

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SUMMARY

Objective: In this study, we aimed to determine the clinical experiences and preferences of Turkish psychiatrists regarding rapid tranquilization of acutely agitated individuals and to evaluate the variables affecting these approaches.

Method: A cross-sectional online survey was conducted between November 2019 and March 2020. The survey link was mailed to a sample of 131 Turkish psychiatrists. A significant proportion of the study sample worked in academic institutions like universities. The questionnaire consisted of mostly single-choice questions about rapid tranquilization, the use of zuclopenthixol acetate, and experiences with intravenous haloperidol.

Results: Only 34.4% of the clinicians adhered to a guideline and almost half of the clinicians did not follow up with the patients after the rapid tranquilization. Intramuscular drug administration was preferred to a greater extent, and haloperidol was the most preferred first-line agent. Simultaneous anticholinergic administration was an almost established practice. The most preferred use of zuclopenthixol acetate was sedation whereas intravenous haloperidol was applied most frequently for delirium.

Discussion: In Turkey, mental health resources are still limited. Moreover, some pharmacological agents or different administration forms are not available. These difficulties seem to increase improper use of rapid tranquilization approaches. A national consensus text is needed and clinicians should be invited to periodic courses. Since the study's sample tends to be clustered in certain institutions, the findings should be evaluated with caution refraining from overgeneralization.

Key Words: Agitation, intravenous haloperidol, rapid tranquilization, sedation, zuclopenthixol acetate

INTRODUCTION

Agitation consists of abnormal, excessively verbal, and physically aggressive or repetitive and purposeless motor behaviors such as rhythm with feet, pulling hair, and rubbing hands that require intervention (1,2). It is characterized by increased arousal and significant impairment in functionality (1). Agitation can be seen in many psychiatric diseases, especially in schizophrenia and other psychotic disorders (3). For the intervention in case of agitation, primarily verbal de-escalation techniques and environmental regulations are recommended, but sometimes physical restraint or seclusion are also used (4). Studies have shown that patients are exposed to traumatic experiences associated with seclusion and restraint, they feel humiliated and lonely, and the most frequently associated theme is staff violence against them (5,6). On the other hand, agitation endangers the person's own or others' safety and hinders medical care. Different studies have shown that agitated patients exhibit significant physical or verbal aggressive behaviors towards healthcare professionals (7,8).

In some countries, seclusion and restraint have been prohibited or policies have been developed to reduce such practices (9). In a follow-up study conducted in nine centers for eleven years in line with policies aimed at reducing coercive interventions, a decrease was observed in the rates and duration of restraint and seclusion, while no increased risk was

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found in terms of violence against staff (10). Studies have shown that with increasing involuntary pharmacological treatments, restraint and seclusion are reduced (11, 12). When appropriate psychological and behavioral approaches fail to reduce agitated behaviors, the use of pharmacological agents through various routes of administration is referred to as rapid tranquilization (13). Benzodiazepines and typical, and atypical antipsychotics are frequently used in rapid tranquilization. No superiority was found between antipsychotics and benzodiazepines in studies. There is also no difference in terms of different antipsychotics when applied in equivalent doses and in the same route (14).

Various guidelines were prepared to ensure certain standards, taking into account the effectiveness, side effects, and post-application follow-up of the drugs used in rapid tranquilization. In England, the National Institute of Health and Clinical Excellence (NICE) recommends the administration of oral preparations first and lorazepam as the first choice (15). On the other hand, the Canadian Psychiatric Association (CPA) recommends oral second-generation antipsychotics as a priority, and an intramuscular haloperidol-lorazepam combination will be used in patients who refuse to take oral medications (16). Similar to CPA, the American Psychiatric Association (APA) also recommends second-generation antipsychotics as first-line but also recommends haloperidol as a first-line agent (17). In Turkey, the Psychiatric Association of Turkey (PAT) stated a series of pharmacological recommendations focused on the underlying etiology in its publications (18). Guidelines cannot always be adapted to clinical practice, many factors are effective in this situation. In a study conducted in Belgium, only 26.9% of clinicians followed the guidelines (19). In another study, 25% of the participants stated that no guidelines were used in their institutions. The rate of adherence to the guidelines did not reach even 50% in total (20). The practice of rapid tranquilization also differs between countries. In countries such as the USA and England, the goal of rapid tranquilization is to calm, while in resource-limited countries such as Brazil, it is ideal to sedate (21).

In this study, we aimed to determine the clinical experiences and preferences of psychiatrists in Turkey regarding rapid tranquilization of acute agitated cases and to evaluate the variables affecting these management approaches.

METHODS

A cross-sectional online survey created using Google Forms© was conducted between November 2019 and March 2020. The survey link was mailed to the "Google Psikiyatri" Gmail group where a sample of 1496 psychiatrists is present within the mailing list. The mailing list aims to provide information sharing and to help each other on certain issues among psychiatrists in Turkey. To improve the participation rate, the survey link was shared once a month via the mail list. At the beginning of the survey, a consent form and checkbox accepted as valid by the Ethical Committee of Gazi University are included. Participants who were informed about the study and gave informed consent were invited to fill in the questionnaire. A total of 143 survey forms were received as filled and 131 participants who fully completed the questionnaire constituted the sample of the study.

A semi-structured online questionnaire consisting of four sections was designed by the researchers. The responses were mostly single-choice, and in some questions, more than one option could be chosen. A limited number of open-ended responses were also included. In order to ensure content validity and ease of expression, the questionnaire was first evaluated by three senior psychiatrists, necessary corrections were made, and then the survey was sent to the mailing list. Participants were asked to give demographic and professional information in the first section. In the study, no special information was requested from the participants that would violate anonymity, and action was taken within the scope of the Personal Data Protection Law.

In the second section, questions about rapid tranquilization experiences of clinicians were included. The administration of drugs using oral, parenteral or other routes of administration to calm patients with acute agitation was defined as rapid tranquilization. In this section, information about rapid

tranquilization indications, preferred drug administration routes and factors affecting this preference, post-administration vital monitoring frequency and measured vital parameters, and the number of rapid tranquilization cases in the last one month were collected. Moreover, clinicians were asked questions about whether they followed any rapid tranquilization guidelines, which guidelines they followed, and if not, the reasons why. In addition, clinicians were asked about the first and second-line agents they preferred for rapid tranquilization by different administration routes and also simultaneous anticholinergic use.

The following two sections had questions about the use of intramuscular zuclopenthixol acetate (ZA) and intravenous haloperidol (IVH) experiences of participants. In the section on intramuscular ZA, clinicians were asked about their purpose and frequency of ZA use, possible contraindications, and concurrent use with other rapid tranquilization agents. In the next section, there were questions about the indications for use of IVH, the average dose and method of administration, and the vital and laboratory parameters followed.

Ethical approval of this study was granted by the Ethical Committee of Gazi University 04.11.2019 with the number 2019-353. This study is in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the World Medical Association (WMA) Declaration of Helsinki – Ethical Principles For Medical Research Involving Human Subjects revised in 2013.

Statistical analysis was performed using SPSS 22.0 for Windows (SPSS, Inc.; Chicago, USA) package program. Descriptive values are stated as number (n), percentage (%), mean and standard deviation (SD).

RESULTS

A hundred and thirty-one completed questionnaires were returned (9,5% response rate). Participants were predominantly under the age of 40 (84.7%) and more than half were women (62.6%). 41.2% of the participants were in the first five years of their professional experience. Psychiatry specialists and residents were mostly involved in the study. 6.1% of the participants were associate professors and 4.6% were professors. The sociodemographic characteristics of the participants are provided in Table 1.

Table 1: Sociodemographic Characteristics of the Participants

	N	%
Age (years)		
20-30	48	36.6
30-40	63	48.1
40-50	12	9.2
50 >	8	6.1
Gender		
Female	82	62.6
Male	49	37.4
Professional Experience Period (years)		
5<	54	41.2
5-10	44	33.6
10-20	23	17.5
20>	10	7.6
Academic Degree		
Psychiatry Resident	57	43.5
Psychiatrist	60	45.8
Associate Professor	8	6.1
Professor	6	4.6
Institution		
State Hospital	21	16
Mental Health Hospital	11	8.4
University Hospital	44	33.6
Training and Research Hospital	40	30.5
Private Hospital	4	3.1
City Hospital	9	6.9
Private Clinic	2	1.5

It has been reported that rapid tranquilization is most commonly used in cases of self-harm (98.5%), physical aggression (95.4%) and damage to property (93.1%). 34.4% of the clinicians stated that they followed a guideline for rapid tranquilization, and PAT guideline was the most frequently followed one. The remaining clinicians did not follow any guidelines and cited unawareness of the guidelines as the most common reason (30.5%). Clinicians stated that they preferred intramuscular drug administration more frequently (58.8%). The most common factors affecting drug administration routes were reported as the severity of agitation (95.4%) and previous clinical experiences (63.4%). 80.9% of the clinicians stated that anticholinergic drugs were administered simultaneously during intramuscular drug administration. In patients who were administered rapid tranquilization, the most common monitored vital signs were pulse rate (75.6%) and blood pressure (69.5%). Most of the participants stated that vital monitoring was performed at least once in the first hour. 29% of the clinicians stated that they inspected the patient every 15 minutes, and 16.8% every 30 minutes after

Table 2: Rapid Tranquilization Experiences of Psychiatrists

	N	%
Rapid tranquilization indications		
Physical aggression	125	95.4
Verbal aggression	70	53.4
Damage to property	122	93.1
Harm oneself	129	98.5
Drug rejection	66	50.4
Difficulty falling asleep	9	6.9
Risk of escape	71	54.2
Staff shortage	13	9.9
Following a guideline	45	34.4
Followed guidelines		
APA guidelines	25	19.1
CPA guidelines	4	3.1
NICE guidelines	20	15.3
RANZCP guidelines	1	0.8
AAEP guidelines	4	3.1
PAT guidelines	29	22.1
Reasons for not following any guidelines		
Lack of awareness	40	30.5
Lack of common agreement	11	8.4
Guidelines not functional	9	6.9
Clinical experiences are sufficient	33	25.2
Preference for drug administration route		
Oral	54	41.2
Intramuscular	77	58.8
Reasons for preferring the drug administration route		
Patient preference	51	39
Patient s family preference	5	3.8
Severity of agitation	125	95.4
Presence of comorbidity	37	28.2
Presence of drug abuse	20	15.3
Lack of some drugs	45	34.4
Having too many patients	16	12.2
Limited time	50	38.2
Probability of side effects	57	43.5
Patient s age	40	30.5
Previous clinical experiences	83	63.4
Simultaneous anticholinergic administration	106	80.9
Vital monitoring		
Pulse rate	99	75.6
Blood pressure	91	69.5
Temperature	64	48.9
Respiratory rate	58	44.3
Oxygen saturation	32	24.5
Peripheral circulation findings	61	46.6
Frequency of vital monitoring		
Every 5 minutes	3	2.3
Every 15 minutes	46	35.1
Every half hour	31	23.7
Every one hour	22	16.8
Every two hours	4	3.1
No vital monitoring	23	17.6
Duration variable depending on medical conditions	1	0.8
Physician follow-up		
Every 15 minutes	38	29
Every 30 minutes	22	16.8
Every one hour	13	9.9
Every two hours	4	3.1
Not follow-up	2	1.5
No time for follow-up	8	6.1
Follow-up is done by the nurse	44	33.6
Number of RT events in the last 1 month		
10>	69	52.7
10≤	8	6.1

AAEP: American Association for Emergency Psychiatry, APA: American Psychiatric Association, CPA: Canadian Psychiatric Association, NICE: National Institute of Health and Clinical Excellence, RANZCP: Royal Australian and New Zealand College of Psychiatrists, RT: Rapid Tranquilization, PAT: Psychiatric Association of Turkey

rapid tranquilization. On the other hand, 41.2% of the psychiatrists stated that no follow-up was made by the clinician for different reasons. Other parameters on practices of clinicians for rapid tranquilization are shown in Table 2.

Lorazepam was the first-line oral agent, followed by olanzapine, quetiapine, and clonazepam for rapid tranquilization (Figure 1). For intramuscular administration, clinicians most frequently preferred haloperidol followed by chlorpromazine. There was no change in the preference of clinicians in terms of second-line agents (Figure 2). Intravenous administration was not specified as the first choice and was preferred as the second line, diazepam was most frequently preferred (5.3%).

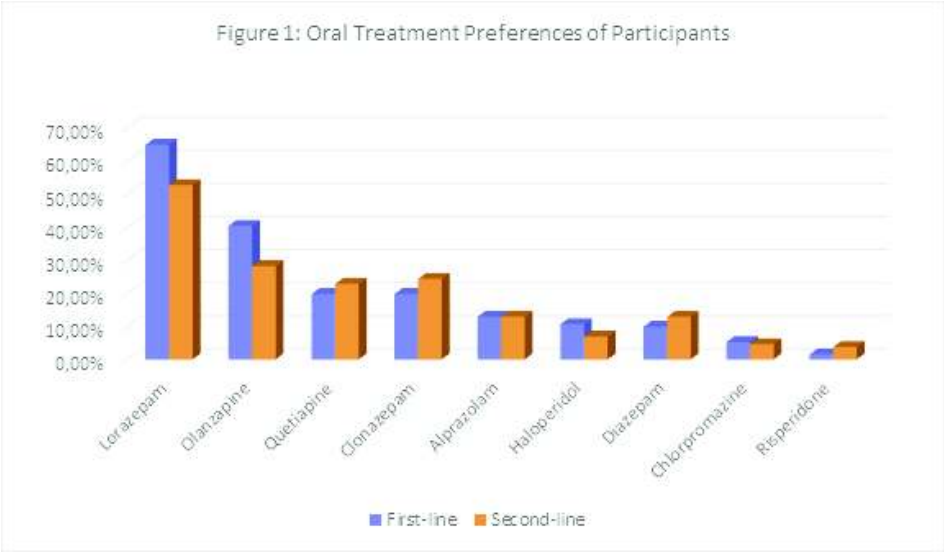
ZA was most commonly preferred for sedation (65.6%), followed by rapid tranquilization (63.4%). Furthermore, 30.5% of clinicians stated that they also used ZA for evaluating tolerance to long-action injectable form. Some clinicians (19.1%) reported that they used other intramuscular drugs simultaneously with ZA. ZA was mostly preferred as an administration for 72 hours. Other findings are shown in Table 3.

More than half of the participants (52.7%) stated that they had at least one experience administering IVH. It was most commonly preferred for delirium (42.7%) and most clinicians reported using haloperidol in the 5-10 mg dose range. The intravenous 30-minutes infusion was preferred most commonly by clinicians (22.1%). Other findings related to the IVH experiences of participants are shown in Table 4.

DISCUSSION

The main findings of this study are that almost half of the clinicians did not follow up with the patients after the rapid tranquilization, adherence to the rapid tranquilization guidelines was low, the intramuscular drug administration was preferred more and the simultaneous anticholinergic drug use was an almost established practice.

A significant proportion of the psychiatrists inclu-



ded in the study were under the age of 40 and most of them worked in universities or training and research hospitals. Therefore, the present results more often reflect the common practice of academic institutions. It is expected that in these institutions responsible for psychiatry residency training, medical practices will be more evidence-based and these institutions are more open to innovations in the field of psychiatry (22). However, on the other hand, these results may not fully reflect the existing practices in mental health hospitals with larger bed capacities, where more chronic and severe patients are treated. In a study conducted at Bakırköy Mental Health Hospital, which has the largest bed capacity in Turkey, physical restraint was applied to 311 acute agitation cases within one month (23). In a 3-month study that included only two wards in the same hospital, physical restraint was used in a total of 174 cases (24). Indeed, it is supported by the fact that only 52.7% of clinicians reported more than ten rapid tranquilization cases in the last month.

Clinicians frequently stated that they apply rapid tranquilization in patients with indications of self-harm, physical aggression, and damage to property. These indications were also frequently emphasized in various previous studies (25, 26). However, 54.2% of the participants stated that they administered rapid tranquilization at the risk of escape. In a study conducted in acute psychosis wards over one month in Turkey, 32.2% of the reasons for physical restraint were caused by the ward environments, and in 18.6% of these cases, there was an attempt to leave the ward without permission (23). In Turkey, resources are still limited compared to many countries and there is a serious lack of staff in health care (27). In fact, 9.9% of the participants stated that they applied to rapid tranquilization due to lack of staff. Furthermore, there is no mental

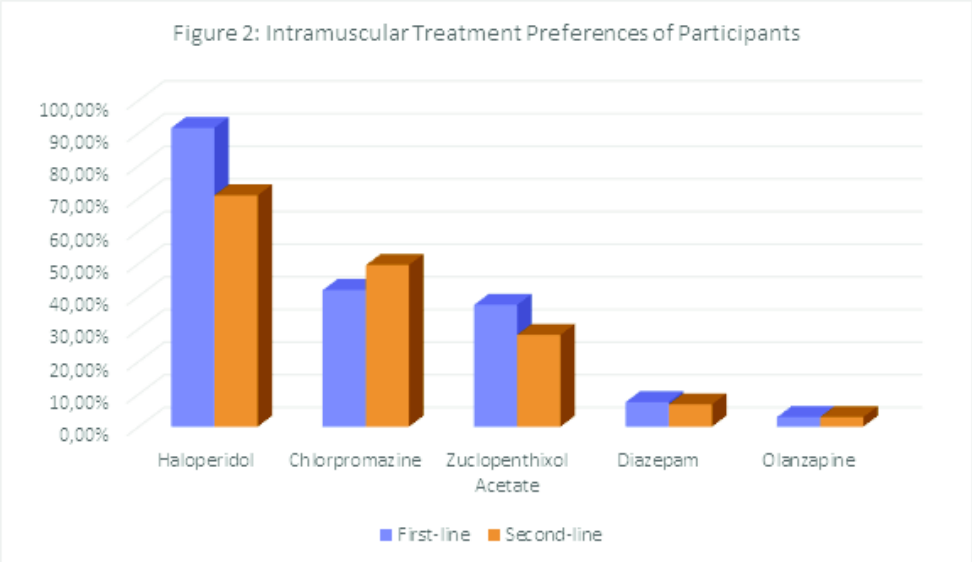


Table 3: Zuclopenthixol Acetate Experiences of Psychiatrists

	N	%
Use of zuclopenthixol acetate	128	97.7
Purposes of zuclopenthixol acetate use		
Sedation	86	65.6
Rapid tranquilization	83	63.4
Maintaining antipsychotic therapy	29	22.1
Evaluating tolerance in zuclopenthixol decanoate	40	30.5
Need for repeated tranquilization procedure	35	26.8
Increasing antipsychotic efficacy	51	38.9
Failure of rapid tranquilization	2	1.6
Long-distance patient transfer	1	0.8
Concurrent use with tranquilizing agents	25	19.1
Frequency of use		
Every 12 hours	3	2.3
Every 24 hours	15	11.5
Every 36 hours	5	3.8
Every 48 hours	26	19.8
Every 72 hours	74	56.5
Contraindications		
If taking oral medication	35	26.7
Antipsychotic-naive patient	42	32.1
Extrapyramidal symptoms prone patient	77	58.8
Confusion	84	64.1
Pregnancy and lactation	83	63.4
Liver and kidney impairment	61	46.6
Presence of cardiac disease	46	35.1
Old patient	47	35.9
Clozapine use	9	6.9
Typical antipsychotic use	9	6.9

health law and there are difficulties in compulsory treatment practices (28). There are also different opinions among the healthcare professionals who personally carry out physical restraint regarding the legal framework of restriction practices (29). Therefore, clinicians may prefer to restrict chemically the patients who are at risk of escaping. The other preventable and correctable rapid tranquilization indication was difficulty falling asleep (6.9%). Maybe, clinicians may have evaluated the additional doses of current treatment regimen given to patients who have difficulty falling asleep and voluntarily want a drug, within the scope of rapid tranquilization.

In our study similar to the literature, referring to a guideline on rapid tranquilization is very low. In a study conducted in Belgium in which 108 psychiatrists and emergency physicians participated, guideline following was found to be 26.9% and it was reported that local guidelines were followed frequently (19). In another study, 75% of the participants reported that there is a guideline for rapid tranquilization in their institutions. However, the rate of compliance with these guidelines in this study did not reach 50% in total (20). In a survey conducted by the European Violence in Psychiatry Research Group in 21 countries, it was reported that there are national guidelines in only three countries, and there are no guidelines in 11 countries. In this study, it was reported that there is no national guideline in Turkey, and APA and PAT guidelines are frequently used by Turkish clinicians (30). In our study, PAT publications related to agitation management were followed most frequently, and APA guidelines were the second most frequently followed guideline with 19.1%. Participants who did not follow any guidelines reported that the most common reasons were that they were not aware of the guidelines and thought that their clinical experiences were sufficient. Similarly, in a study conducted with emergency physicians in Australia, it was reported that 68.7% of the participants were not aware of the NICE guidelines, and only 44.8% found the NICE guidelines useful (31). As a result, the applicability of agitation guidelines in daily clinical practice is low. There should be policies at the national level in Turkey to improve care of agitated patients and clinicians should be given periodic training on this subject.

More than half of the participants reported that they preferred the intramuscular route primarily in the management of agitation. Most guidelines recommend primarily oral treatments for rapid tran-

Table 4: Intravenous Haloperidol Experiences of Psychiatrists

	N	%
Use of intravenous haloperidol	69	52.7
Indications		
Agitation	38	29
Physically Aggression	30	22.9
Delirium	56	42.7
Alcohol or substance withdrawal symptoms	4	3.1
Extrapyramidal symptoms prone patient	8	6.1
Liver and kidney impairment	3	2.3
Intravenous haloperidol dose		
5 mg >	8	6.1
5-10 mg	36	27.5
10 mg ≤	20	15.3
Type of usage		
Intravenous slow push	14	10.7
Intravenous 30-minutes infusion	29	22.1
Intravenous 60-minutes infusion	12	9.2
Intravenous 2-hours infusion	13	9.9
Vital signs and laboratory examinations		
Pulse rate	54	41.2
Blood pressure	43	32.8
Temperature	22	16.8
Respiratory rate	27	20.6
Oxygen saturation	23	17.6
Evaluation of extrapyramidal symptoms	26	19.8
Complete blood count	5	3.8
Serum electrolytes	6	4.6
Liver and kidney function tests	7	5.3
Arterial blood gas analysis	2	1.5
Electrocardiogram	49	37.4
Creatinine phosphokinase	9	6.9

quilization (15-17). Also, the oral route is more preferred by clinicians in the management of agitated patients in recent studies (32-34). In our study, the severity of agitation and previous clinical experiences were indicated as the most effective reasons for the choice of administration route. Patients with high agitation severity generally do not accept taking medications voluntarily, so oral treatments are difficult to implement (35). Therefore, clinicians in our study may have reported that they predominantly preferred the intramuscular route. Moreover, it was shown that the subjective experiences of clinicians, institutional culture, and attitudes are effective in changing pharmacological preferences in rapid tranquilization practices (31). The third most common cause was the probability of drug side effects. In some previous studies investigating attitudes towards agitation management, similar safety concerns were reported to be effective in the pharmacological preferences of clinicians (20, 31). Despite the recommendations of the current guidelines to encourage patient participation (3, 15), only 39% of the participants stated that the patient's preference was effective in choosing the route of drug administration.

NICE recommends the measurement of at least one vital parameter per hour after rapid tranquilization (15). In our study, 75.6% of the participants reported that vital monitoring was performed at least once within one hour after rapid tranquilization. Similarly, in a study, 64% of clinicians reported that vital signs were measured at least once between 15-60 minutes (20). However, these results reflect the attitudes of clinicians based on their past experiences, as in our study. In a study in which rapid tranquilization cases recorded retrospectively were examined, vital signs were followed up in the first hour in 21% of the cases, and in 40% of the cases, no document record was found (26). In a study that included the data of 45 Mental Health Trusts in England, 55.5% of the centers did not have any audit reports after rapid tranquilization, and physical monitoring findings were recorded in the audit reports only in 40% of them (36). Therefore, real-life data on vital monitoring in Turkey will yield more accurate results.

It is important that the patient is evaluated face-to-face by the physician at a certain frequency after rapid tranquilization. In our study, 33.6% of the clinicians stated that they left the follow-up to the nurses, and 7.6% stated that they did not re-evaluate the patient after rapid tranquilization. In a study conducted in England, 52% of the participants reported that they left the follow-up to nurses (20). However, in the USA, the Joint Commission recommends that the patient should be evaluated face-to-face by the responsible physician within the first hour (37). Therefore, it is necessary to provide more training to physicians in Turkey on the follow-up of agitated patients and to carry out more strict audits on the recording of agitation cases.

Lorazepam and olanzapine were the most frequently preferred agents among first-line oral treatments. Among the intramuscular treatments, haloperidol was reported most frequently as the first-line agent. The preferences for both routes of administration did not change in the second-line agent preference. When previous studies are examined, in a study conducted in Africa, clinicians reported that they prefer chlorpromazine most frequently among parenteral agents in the management of acute agitation (38). In a retrospective study in Turkey where acute agitation cases were evaluated, the most frequently used agent was found to be intramuscular haloperidol (41.6%) (39). In an older Turkish study, it was reported that chemical restraint was used in 65% of acute agitation cases, and haloperidol was used in 67.3% of them. However, in this study, no information was given about the administration route (23). In an English study, clinicians preferred benzodiazepines as the first-line agent in neuroleptic naïve patients, benzodiazepine+antipsychotic combinations, and then antipsychotic monotherapy most frequently in non-neuroleptic naïve patients. Lorazepam was the most commonly used benzodiazepine, and haloperidol was the most commonly used antipsychotic (20). In another study, benzodiazepines were most frequently preferred as first-line agents by emergency physicians, while psychiatrists reported atypical antipsychotics as first-line agents most frequently (19). Therefore, different factors are effective in the pharmacological agent preference of clinicians in the management of agitated patients. Many factors such as the rapid onset of action, neuroleptic naivety, current treatment of the patient,

relative safety, easy applicability, availability, and allowing psychiatric evaluation are effective in the choice of pharmacological agents (20, 31, 38, 40). The oral drug preferences of clinicians in our study are in line with the recommendations of current guidelines. However, benzodiazepines and atypical antipsychotics are still not used adequately in parenteral administration for agitated patients. There is no parenteral form of lorazepam in Turkey (41), and although parenteral olanzapine is licensed, it is difficult to obtain (42). Therefore, in our study, the main factor in the preference of clinicians for parenteral agents was availability. Interestingly, although intramuscular ziprasidone exists, it was never preferred by clinicians. QT prolongation concerns about this drug may have been effective in this situation (43). Therefore, haloperidol still maintains its place as the first-line agent. Haloperidol is the most commonly used parenteral agent in the treatment of acute agitation (44). However, the manufacturer recommends using haloperidol in parenteral administration after an ECG recording (45).

In our study, 80.9% of the participants stated that they used anticholinergic drugs simultaneously with antipsychotics for rapid tranquilization. In a Turkish study in which acute agitation cases were evaluated retrospectively, the use of haloperidol in 41.6% of the patients and biperiden in 37.9% of the patients supports similar simultaneous use (39). The prophylactic use of anticholinergic drugs is not recommended (46). Only in a guideline for the treatment of schizophrenia, there are recommendations supporting the use of haloperidol combined with anticholinergics (14). There is a risk of extrapyramidal side effects with the use of high-potency antipsychotics such as haloperidol. In a study conducted with neuroleptic-naive first-episode psychosis patients, the incidence of extrapyramidal side effects with haloperidol was found to be 77.9% (47). Since the participants preferred haloperidol most frequently among intramuscular agents, they may be using anticholinergics prophylactically in order to avoid the risk of possible extrapyramidal side effects. In countries like Turkey, where resources and staff are insufficient, it may be difficult for clinicians to follow the patient and administer anticholinergics if necessary. Studies have shown that the use of agents such as lorazepam, promethazine, and diphenhydramine concurrent with haloperidol both produce a more rapid reduction in agitation and also reduce the incidence of extrapyramidal side effects (3, 44, 48). In a study conducted in Brazil, it was determined that clinicians most frequently preferred the combination of haloperidol and promethazine in the treatment of agitation (49). Therefore, these agents may be an alternative to the anticholinergic prophylaxis approach. Unfortunately, only the diphenhydramine parenteral form is licensed in Turkey and there is difficulty in obtaining this form (50).

As the first-line intramuscular agent, 37.4% of the participants reported that they preferred ZA. The most common purposes of ZA use were reported as sedation and rapid tranquilization, respectively. When intramuscular ZA is used, the sedation effect occurs in only 2-4 hours in a minority of patients, while the antipsychotic efficacy is seen after the 8th hour. Therefore, it is not expected for a certain change in the agitation level of the patient for a long time when administered for rapid tranquilization (13). In a Cochrane review, the authors stated that there were methodological problems in existing studies and that ZA is more effective in reducing the frequency of repetitive injections since it does not have a rapid onset of action (51). Therefore, clinicians' view of ZA in rapid tranquilization should be changed in Turkey. Furthermore, in our study, 30.5% of the clinicians stated that they used ZA to evaluate the tolerance to the long-acting depot form of zuclopenthixol. The use of a long-acting pharmacological agent is inconvenient for the assessment of tolerance to an antipsychotic. A test dose consisting of a small dose of active drug in a small volume is recommended for the assessment of tolerance to long-acting depot typical antipsychotics (13). ZA should be avoided for this purpose, especially in neuroleptic naive patients, because it may cause prolonged extrapyramidal side effects (13).

In our study, slightly more than half of the participants reported that they had at least one experience of using IVH in patients, and used it most frequently for delirium. Low-dose IVH was recommended for use in the treatment of delirium by expert groups such as the Cochrane Collaboration (52). Intravenous use of haloperidol in delirium

patients has many advantages over the intramuscular route, such as rapid onset of action, high bioavailability, and ease of administration (53). However, in 2007, based on case reports of potentially fatal cardiac events, the Food and Drug Administration (FDA) warned clinicians of an increased risk of QT prolongation and torsades de pointes within higher-than-recommended doses or intravenous use of haloperidol (54). Therefore, clinicians should be careful about possible complications when using IVH. In our study, the participants stated that they used haloperidol intravenously most frequently at doses of 5 to 10 mg. The most common form of administration was infusion within 30 minutes. In the American Association for Emergency Psychiatry guidelines, when IVH administration is required, it is recommended to limit the dose to 5 to 10 mg/day with continuous ECG monitoring, while CPA recommends its use at an average dose of 1-2 mg and monitoring of respiratory rate, blood pressure, and pulse rate every 5 minutes (3, 16). A recent systematic review recommended ECG monitoring only when using >5 mg intravenous doses of haloperidol and telemetry only for high-risk patients who received a cumulative dose of at least 100 mg or QTc >500 ms (55). Similar to the current recommendations, clinicians in our study reported that while using IVH, they most frequently followed ECG, heart rate, and blood pressure.

The study has several limitations. First, the study sample was quite small and tended to cluster in certain institutions. Therefore, the results mostly reflect the practice of academic institutions in Turkey. Secondly, the preference of clinicians may have been determined by the most probable scenario in their minds, since no specific feature was given about the agitation. It would be more accurate to make a similar assessment on hypothetical cases with factors affecting pharmacological interventions such as etiology, special groups, and comorbidity. Thirdly, drug-related factors such as the rapid onset of action, possible interactions, and mean sedation duration, which affect clinicians' pharmacological preferences are not presented in detail. Fourth, clinicians were not asked about their preference for combinations in the management of agitated patients. However, in real life, polypharmacy is common in the psychiatric population (25, 49). Also, in the study differences between emergency and inpatient services were not examined. Finally, documentation and audit processes in institutions were not included in the survey. With these limitations, our study should be still considered to be a preliminary study on rapid tranquilization in Turkey.

The present results in our study show that there are preventable and correctable problems in the management of agitated patients, and clinicians have improper use of rapid tranquilization agents. There is no national consensus text on the management of agitated patients in Turkey, and professional organizations do not have a policy text on rapid tranquilization. Clinicians should be given periodic training by preparing guidelines on agitation management, and the interventions applied should be supervised. There is a need for studies with large participation in order to better analyze the current practice regarding rapid tranquilization in Turkey.

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Attitudes of health care professionals towards violence against women: Are mental health professionals more sensitive?

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SUMMARY

Objective: Mental health professionals have greater access to information about patients' personal lives compared to other areas of medicine. The purpose of our study was to evaluate the attitudes of mental health professionals and other healthcare professionals towards violence against women.

Method: A total of 160 healthcare professionals, including 80 mental health professionals, participated in the study. All participants completed a sociodemographic data form and the Violence Against Women Attitude Scale.

Results: The sociodemographic characteristics of the groups were similar ($p>0.05$). It was found that 63.8% of the participants had experienced violence at some point in their lives, with 45.2% experiencing violence from family members or spouses, 31.7% from their patients or patients' relatives, and 25% experiencing physical violence, 51.3% emotional violence, 3% sexual violence and 4% economic violence. No significant differences were found between the groups. It was also discovered that university graduates, single women, women without children, women living in urban areas, women who were not perpetrators of violence, and women who did not find the penalties adequate were more sensitive to violence against both the body and identity ($p<0.05$). Furthermore, women who had previously experienced emotional violence have been more sensitive to violence against identity ($p=0.019$).

Discussion: Establishing the attitudes of healthcare professionals, who serve as the primary defense against violence against women, and furnishing in-service training to equip them with the ability to guide victims of violence effectively is a vital action in the struggle against violence.

Key Words: Attitudes towards violence, violence against women, healthcare professionals, mental healthcare professionals

INTRODUCTION

The World Health Organization (WHO) defines violence as "the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment, or deprivation" (1). Violence against women is a significant public health issue and a violation of human rights. According to the United Nations, violence against women includes "any act of gender-based violence that results in, or is likely to result in, physical, sexual, or psychological harm or suffering to women, including threats of such acts, coercion, or arbitrary deprivation of liberty" (2). Globally, approximately 30% of women experience physical and/or sexual violence in their lifetimes (3). In Turkey, studies indicate that four out of ten women have experienced physical violence at some point (4).

Violence against women is recognized as an etiological risk factor for various physical and mental illnesses, leading to significant healthcare costs and work-related losses annually (5). Addressing and intervening in violence against women requires a multi-faceted approach, with the healthcare sector playing a vital role. Women who are physically and/or psychologically harmed should go to health institutions to be protected from the violence they are exposed to. Health institutions can be a starting point in providing comprehensive health services to women who are subjected to violence and in direct-

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ing them to other support services they may need. Health workers need to be aware of this issue to detect women who are subjected to violence early and provide the necessary support. Health services are of great importance in reducing the prevalence of violence against women and related mental and physical illnesses.

A significant portion of domestic violence cases remain hidden because they are not reported and cannot be evaluated by experts. In cases that are not hidden, the approach of healthcare professionals to the victim and their attitudes towards violence are very important for the problem to be recognized or resolved. A study found that spousal violence can be reduced by 75% if healthcare professionals recognize violence and intervene (6). The duties of people in these institutions include identifying domestic violence and its psychological, physical and sexual effects, conducting the necessary examinations and treatments, documenting these and delivering them to the necessary judicial authorities.

The fact that women who are victims of violence avoid sharing the violence they are subjected to due to shame, or fear of not being adequately protected and continuing to be subjec-ted to violence by their spouses plays a role in the secrecy of violence. In addition, health workers may ignore violence or hesitate to report it because they are afraid of the risk of legal sanctions due to any attempt at violence against them or a wrong decision they make (7,8).

For this reason, women who are victims of violence should be informed about their legal rights and the violence they experience, the measures to be taken for their safety should be explained, and if necessary, they should be provided with access to support services (9). Health workers should receive the necessary legal legislation training and be protected by administrators (10). The World Health Organization also recommends in its report that inappropriate and unequal gender attitudes should be addressed in the training programs of all health workers (11). Today, we can see that the doctor-patient relationship, the relationship between medicine and society, and many medical cases are being questioned in terms of our ethical values as well as the law, and our traditional values are being reanalyzed. It can be thought that mental health workers are more knowledgeable and sensitive about this issue because they can access information about their patients' private lives more easily compared to other fields of medicine, have the opportunity to meet with their patients for longer periods of time, and internalize the training they receive throughout their working lives and reflect it in their attitudes.

When the literature was reviewed, although studies were found on the attitudes and knowledge of health workers towards violence against women, no study comparing the attitudes between health workers in mental health and other disciplines was found. (12-14).

The aim of this study was to evaluate the attitudes of mental health workers (MHW) and other health workers (OHW) towards violence against women in a university hospital.

METHOD

Design of the Study

As indicated by the power analysis, this cross-sectional study encompassed a total of 160 individuals, comprising 80 mental health workers, including physicians, psychologists, and nurses employed at a university hospital, and 80 physicians and nurses engaged in other medical specialties. Since there was no similar study as a reference, considering that a low effect size could be obtained between the two study groups in line with the information and expectations obtained from the literature, as a result of the power analysis conducted, it was calculated that 80% power could be obtained at a 95% confidence level when at least 156 people were included in the study (at least 78 people for each group) for an effect size of $d = 0.4$.

The necessary permissions were obtained from the Pamukkale University Ethics Committee prior to the study with the ethics committee decision numbered 193035 dated 07.04.2022.

Data Collection Tools

Sociodemographic Data Form: A questionnaire form consisting of 11 questions investigating the sociodemographic characteristics of the participants, 4 questions investigating the characteristics of exposure to and perpetration of violence, and 7 questions regarding violence against women, was applied to the participants, developed by the authors.

Attitude Scale on Violence Against Women (ISKEBE Attitude Scale): It was developed by Yalçın Kanbay in 2016. It is a 5-point Likert-type measurement tool consisting of two factors and 30 items. The scale has two sub-dimensions: "attitudes towards the body (Sexual and physical violence)" and "attitudes towards identity (Psychological and economic violence)". Questions 5 and 24 on the scale are scored in reverse. Each question is scored between 1 and 5 in the scale. The lowest score that can be obtained from the first factor is 16, and the highest score is 80. The lowest possible score for the second factor is 14, and the highest is 70. The lowest possible score for the overall scale is 30, and the highest is 150. High scores indicate that the participant is against violence against women, while low scores indicate that the participant is not against violence against women. Kanbay determined the Cronbach α coefficient of the scale as 0.86. (15)

Statistical Analysis

SPSS 25.0 was used to evaluate the data. For descriptive statistics, number, percentage, arithmetic mean, standard deviation, median, and interquartile difference were given. According to the Kolmogrov-Smirnov analysis, it was seen that the data did not conform to normal distribution. Mann Whitney U test and Kruskal Wallis test were used to compare the measurement variables between groups. Relationships between continuous variables were examined with Spearman correlation analysis and differences between categorical variables were examined with Chi square analysis. Statistical significance level (p) <0.05 was accepted.

Table 1. Demographic and socioeconomic characteristics of the participants

Age (M–SD)	32,06 – 7,18		
Variables		**n**	**%**
Gender	Female	112	70,00
	Male	48	30,00
Occupation	Physician	97	60,62
	Nurse	58	36,25
	Psychologist	5	3,13
Status of being a mental health worker	Yes	80	50,00
	No	80	50,00
Educational status	Primary School	0	0,00
	High School	8	5,00
	University	152	95,00
Experience	Less than five years	77	48,13
	More than five years	83	51,88
Marital status	Married	73	45,63
	Single	87	54,37
Status of having children	Yes	50	31,25
	No	110	68,75
Longest place of residence	Rural	11	6,88
	Urban	149	93,13

M=mean, SD=Standard Deviation

RESULTS

160 people participated in the study. 70% of the participants were female (n=112). The mean age was 32.06 ± 7.18. Half of the participants were mental health workers and the other half were non-mental health workers. The sociodemographic characteristics of the participants are given in Table 1.

It was determined that 63.8% of the participants had encountered violence at some point in their lives; 45.2% by their family or spouse, 31.7% by their patients and relatives; 25% by physical, 51.3% by emotional, 3% by sexual, and 4% by economic violence. 23.2% of the participants stated that they had previously been a perpetrator of violence.

68.8% of the participants stated that having a female friend or relative who had experienced domestic partner violence helped them more easily identify women who had been subjected to violence in their professional lives. When faced with a case or suspicion of violence against women, 34.4% of the participants stated that they had difficulty or were inadequate during the examination and 26.3% during the reporting phase. Those who stated that there was a procedure for violence against women in the institution they worked at were 11.3%. It was determined that 88.1% of the participants reported a case or suspicion of violence against women. Of those who did not report, 36.8% stated that they did not have information about the legal processes and 36.8% stated that they were afraid that they would put the victim in a worse si-

Table 2. Participants' attitudes and characteristics towards violence

		Mental health workers		Other health workers		P
Variables		n	%	n	%	
Approach to violence if a relative has been subjected to violence	Increased anxiety	11	30,6%	25	69,4%	
	Avoidance	0	0,0%	1	100,0%	0.038
	Easier recognition	61	55,5%	49	44,5%	
	No change	8	61,5%	5	38,5%	
Difficult stages when faced with violence	Examination	27	49,1%	28	50,9%	
	Record	8	47,1%	9	52,9%	0,128
	Report	27	64,3%	15	35,7%	
	No difficulty	18	39,1%	28	60,9%	
Whether there is a violence procedure in the institution one works in	Yes	10	55,6%	8	44,4%	0,468
	No	17	58,6%	12	41,4%	
	Don t know	53	46,9%	60	53,1%	
Whether one reports when faced with violence	Yes	69	48,9%	72	51,1%	0,625
	No	11	57,9%	8	42,1%	
	Feeling that social services are uninterested	0	0,0%	2	100,0%	0,398
	Lack of knowledge of legal processes	4	57,1%	3	42,9%	
Reasons if not reported	Fear of making the victim worse off	5	71,4%	2	28,6%	
	Insufficient evidence	1	50,0%	1	50,0%	
	Fear for self	1	100,0%	0	0,0%	
Whether one finds the punishments given to the perpetrator sufficient	Yes	3	,0%	1	25,0%	0,620
	No	77	49,4%	79	50,6%	

tuation than she was now. It was determined that 98% of the participants did not find the punishments or sanctions given to those who perpetrated violence against women sufficient. It was determined that only 31.3% of the participants received training on violence against women. The groups were similar in terms of sociodemographic and violence views and experiences (p>0.05). Compared to the OHW, MHW stated that having a friend or relative who experienced domestic violence helped them to identify women who were subjected to violence in their professional lives more easily and statistically significantly (p=0.038, Table 2).

The mean scale score of ISKEBE 1 (attitude towards the body) was 78.80±2.69 for women and 78.10±4.50 for men (p=0.491). The mean scale score of ISKEBE 2 (attitude towards identity) was 63.99±6.86 for women and 60.10±10.00 for men (p=0.064).

There was no statistically significant difference between the MHW and OHW in terms of scale scores (p< 0.05, Table 3).

The ISKEBE 1 mean scale score was significantly higher among university graduates than high school graduates (p=0.032), among psychologists than nurses and doctors (p<0.001), among singles than married (p=0.025), among those without children (p=0.002), among those living in urban areas compared to those living in rural areas (0.007), among those who had not previously committed violence compared to those who had (p=0.004), 'among those who found the punishments or sanctions given to those who committed violence against women inadequate compared to those who did not(p=0.018), and they had a more sensitive attitude towards violence against women (Table 4).

The mean scale score of ISKEBE 2 was significantly higher in psychologists than in nurses and doctors (<0.001), in single individuals than in those who are married (p=0.009), in those without children than in those with children (p=0.002), in those living in urban areas than in rural areas (p=0.018), in those exposed to emotional violence than in those not exposed to emotional violence (p=0.019), and they had a more sensitive attitude towards violence against women (Table 5).

DISCUSSION

In our study comparing the attitudes of mental health workers and other health workers towards violence against women, it was determined that the attitudes of both groups towards violence were similar and negative. Studies on violence against

Table 3. ISKEBE scale scores of participants according to their status as mental health or other health workers

Variables	ISKEBE 1 scale (M–SD)	P	ISKEBE 2 scale (M–SD)	P
Mental health workers	78,63–3,27	0,290	62,90–7,46	0,904
Other health workers	78,56–3,42		62,75–8,74	

M=mean, SD=Standard Deviation

Table 4. Mean ISKEBE1 scores of participants according to demographic and socioeconomic characteristics

Variables		ISKEBE1 score (M–SD)		p
		M	SD	
Status of education*	Primary school	-	-	
	High school	77,00	4,00	
	University	78,68	3,29	0,032
Occupation*	Physician	78,98	3,31	
	Nurse	77,83	3,41	
	Psychologist	80,00	0,00	<0,001
Marital status**	Married	77,89	4,26	
	Single	79,18	2,15	0,025
Status of having children**	Yes	77,36	4,81	
	No	79,15	2,20	0,002
Residence**	Rural	77,00	3,41	
	Urban	78,71	3,32	0,007
Status of being a perpetrator of violence **	Yes	77,97	4,02	
	No	78,78	3,10	0,004
The status of thinking that sufficient punishment has been given **	Yes	73,00	7,39	
	No	78,74	3,09	0,018

*Kruskal Wallis, **Mann Whitney U, M=mean, SD=Standard Deviation

women have determined that exposure to violence affects individuals' attitudes and behaviors regarding this issue. Studies have determined that when faced with domestic violence, men tend to respond to violence with violence, while women tend to accept violence (16,17). Therefore, it has been stated that personal experiences affect attitudes towards violence (18). In our study, it was found that 63.8% of the participants had been exposed to violence at some point in their lives. As a result of a study evaluating the violence experiences of midwives, physicians and nurses working in family health centers and their attitudes and behaviors towards violence against women, it was determined that 51.8% of the health personnel participating in the study had been exposed to violence at least once in their lives (19). In a study evaluating the knowledge, attitudes and behaviors of female health personnel about violence against women, the rate of exposure to violence was determined as 69.8% (13). These findings are similar to our study. Unlike our study, another study found that the rate of participants who stated that they had been exposed to violence before was 26.7% (20). This difference was attributed to the high sociocultural levels of the participants and the fact that the majority were single.

Healthcare workers are in a risky occupational group in terms of exposure to violence (21). This risk is present in many occupational groups in the work sector, as is the case in the health sector (22). In our study, it was determined that 45.2% of the participants were exposed to violence by their family and spouse, and 31.7% by patients and relatives. Similarly, in a study, it was determined that 21.2% of women and 40.9% of men were exposed to violence by their fathers, 16.2% of women and 3.2% of men were exposed to violence by their spouses, and 39.3% of all participants were exposed to violence by relatives of patients (19). Similar to the literature, when the type of violence that the participants were exposed to in our study was examined, it was seen that emotional violence was the most common, followed by physical violence. In our study, the status of having the role of perpetrator of violence was found to be 23.3%. In one study, this low rate is parallel to our study because violent behavior affects attitudes towards violence against women (20).

Table 5. Mean ISKEBE2 scores of participants according to demographic and socioeconomic characteristics

Variables		ISKEBE2 score (M–SD)		P
		M	SD	
Occupation*	Physician	64,44	7,68	<0,001
	Nurse	59,60	8,07	
	Psychologist	68,80	2,17	
Marital status**	Married	61,10	8,88	0,009
	Single	64,28	7,11	
Status of having children**	Yes	59,80	9,44	0,002
	No	64,20	7,03	
Longest place of residence**	Rural	58,09	9,29	0,018
	Urban	63,17	7,93	
Exposure to emotional violence**	Yes	63,85	8,24	0,019
	No	61,74	7,85	

*Kruskal Wallis, **Mann Whitney U, M=mean, SD=Standard Deviation

In our study, 68.8% of the participants stated that having a female friend or relative who had experienced domestic violence helped them to more easily recognize women who were subjected to violence in their professional lives. In a study, 72.6% of the health workers who participated in the study stated that having a female relative who had experienced violence from their spouse would affect their professional lives (14). In the same study, 43.6% of the workers stated that this situation would allow them to more easily recognize women who were subjected to violence. This difference may be due to the fact that the study was conducted only with family health center workers and the samples were different.

In a study similar to our study, it was determined that 80.9% of women and 83.9% of men would report a case or suspicion of violence against women (19). Again, in the same study, 47.4% of the participants stated that they were afraid of making the victim worse and 13.7% hesitated to report because they did not have information about the legal process. These findings indicate that training should be provided to fill the gap in knowledge about legal processes and to disseminate information in order to prevent violence against women.

The finding that only one-third of healthcare professionals received sufficient training on violence in our study is similar to the literature (23-25). It is known that healthcare professionals can have various difficulties in determining and managing violence, especially since their student years (26). It was determined that their ability to respond to these cases and to direct them consciously improved after the training to be provided (27).

In this study, the ISKEBE 1 and 2 scale scores of the two groups were found to be similar and high. Both healthcare professional groups adopted an attitude against violence against women. It was observed that the literature mostly focused on nurses, and although no exactly similar study could be found, the fact that the violence attitude scale scores were found to be similar in healthcare professionals in a study is consistent with this study (20).

In a study comparing mental health workers and other health workers in the literature, no statistically significant difference was found between the two groups in terms of emotional empathy (28). One of the striking findings of our study is that the similar attitudes of mental health workers and other health workers are indirectly measured, although not directly, by empathy ability.

On the other hand, the fact that healthcare professionals have similar and negative attitudes towards violence is a pleasing finding that is consistent with the literature (29,30). Considering that our country is one of the countries with the highest number of cases of violence against women, the fact that our healthcare professionals have a high level of awareness and a contemporary approach allows us to look with hope to a solution to this problem.

The fact that ISKEBE 1 (Attitude towards the body) scores are higher in university graduates is an expected finding that is consistent with the literature (20,29,31). It is known that educated people move away from traditional attitudes; they are more contemporary and have higher self-esteem (32). The fact that people who have not previously been perpetrators of violence and do not find punishments sufficient are more sensitive to violence against the body may be due to the fact that they have not normalized violence (29,33).

While there are studies that are consistent with the finding that single healthcare professionals have more sensitive attitudes towards both the body and identity, there are also studies that contradict this finding (20,29,34). In one study, no relationship was found between attitudes towards violence and marital status (19). This situation can be explained by the fact that married women are more tolerant and accepting of violence due to the traditional structure of our country (35). The fact that people with children are more sensitive to violence may be related to the fact that having children makes people more sensitive and empathetic (36, 37).

The fact that ISKEBE scores and attitudes towards violence generally do not create a significant difference depending on the violence experienced before is a finding that has been determined in the rele-

vant literature (19,31,33). It is noteworthy that ISKEBE 2 (identity-related) scores were higher in people who had previously been exposed to emotional violence. The reason for this may be that our sample generally consists of an educated and sensitive group.

The finding that psychologists are more sensitive than nurses in this study is important and has not been encountered in the literature. The reason for this can be explained by the fact that psychologists are more conscious of this issue due to their mental health training. In another study, no significant relationship was found between professions and attitudes (19).

The fact that 11.9% of healthcare professionals who encountered violence in our study did not report it is an important finding. The literature emphasizes that healthcare professionals should take the time to understand their obligations in the country they are in and to know the legislation, case laws, statutes and guidelines affecting these issues (38). Healthcare professionals often face ethical dilemmas regarding the situations in which they should report. While legal regulations in our country, on the one hand, prohibit the disclosure of personal data and consider acting contrary to this as a crime within the scope of Articles 134-137 of the Turkish Penal Code, and on the other hand, grant healthcare professionals the right to withdraw from testifying with Article 46 of the Criminal Procedure Law, the opposite of these two regulations, Articles 279-280 of the Turkish Penal Code, impose an obligation to report a crime under the threat of punishment. On the one hand, the need to clarify the crime and restore the disrupted public order, and on the other hand, the right to demand respect for individuals' private life compete, causing healthcare professionals to face ethical dilemmas regarding how to act in which situations (39). In addition, the expression "symptom" must be encountered in order for the obligation to report to arise in our country's laws may leave healthcare professionals in a dilemma, considering that the findings detected by the physician may have evidentiary value. Indeed, whether the obligation to report arises with the patient's statement has also been a subject of debate among lawyers. According to some authors, what is meant by symptom is any trace or artifact that reveals the suspicion that a crime has been committed, remains from the incident and represents the incident (40). It has also been stated in the literature that symptom should be understood as a trace or sign that objectively creates a legitimate and reasonable suspicion that a crime has been committed; simple suspicion, delusion or abstract assumption that is not supported by concrete information or trace cannot be accepted as a symptom (39).

According to some authors, if the crime is learned from the evidence of the statement rather than the "symptom", no obligation will arise. Accepting otherwise would lead to an unbearable expansion of the scope of the crime (41,42). However, according to some authors, the expression 'indication' in the way the law is written is not used to prevent the use of document and statement evidence as the basis for the obligation to report the crime, but to indicate that it is not necessary to seek definitive evidence that the crime has been committed (39,43,44). As can be seen, there is a need for clearer legal regulations.

Among the limitations of our study is that participation in the study was not random but voluntary. However, this also ensures that the volunteers provide their opinions anonymously, thus ensuring that the data is reliable. Another strength of this study may be that it is the first study in the literature that compares other health professionals and mental health professionals on violence against women and that it will contribute to the literature since it includes physicians and psychologists.

Health institutions and health professionals, which are one of the first points to which women who experience violence apply, play a key role in resolving this issue. It is very important for health professionals to be conscious, understanding, and to first recognize and then take part in guiding women victims correctly.

As a result, recognizing violence and managing it well is of great importance for healthy individuals and society. Health professionals have also undertaken a great task in this regard, for this reason they need to be educated and sensitive, and they

need to remember to bring violence to mind, especially in people who apply with psychiatric complaints or trauma. Due to the relationship between a person's attitude towards violence and the perception or application of violence, it is important for health professionals to determine their attitudes towards violence and to provide in-service training in order to protect their victims. More studies should be conducted on the subject, and different solutions and new legal regulations compatible with Turkish culture should be produced.

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Authors' contributions: S.B.T and O.Z.T conceptualized the design by conducting a literature review, and R.M.G. made significant contributions to the concept of the study. Data collection was performed by S.B.T. Data analysis was performed by S.B.T and R.M.G. The first draft of the article was written by S.B.T and R.M.G., critically reviewed and revised with comments by O.Z.T. All authors contributed to the final version. All authors reviewed and approved the final text.

Additional Remarks: This study was presented as an oral presentation at the 58th National Congress of Psychiatry.

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Risk factors associated with disease severity in autism spectrum disorder

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SUMMARY

Objective: This study aimed to evaluate prenatal-perinatal-postnatal risk factors, which are thought to have a role in the etiology of autism spectrum disorder, according to autism severity and to evaluate the relationship between maternal stress during pregnancy and the age difference between parents.

Method: 100 children between the ages of 18-72 months who were diagnosed with ASD according to DSM-V diagnostic criteria and were followed up were included in the study. By evaluating the clinical severity of autism with the childhood autism rating scale, children diagnosed with ASD were divided into two subgroups according to clinical severity. Sociodemographic data and risk factors were recorded in the clinical data form, and the characteristics of the two groups were compared. Birtchnell Spouse Evaluation Scale-female form was applied to mothers to evaluate marital-relationship problems.

Results: In our study, it was determined that premature birth and regression history were more common in the severe autism group than in the mild-moderate autism group (p=0.007, p=0.025). No significant relationship was found between the difference between the ages of the mother and father and the subscales of the Birtchnell Spouse Rating Scale. It was found that the disconnection subscale of the Birtchnell Spouse Assessment Scale was significantly higher in the severe autism group.

Discussion: Our study is one of the few studies conducted in this field and aims to contribute to the identification of preventable risk factors of autism. In the future, there is a need to confirm the data with larger studies in which maternal stress risk factors are also evaluated in the postnatal period and include other maternal stress factors besides marriage-relationship problems.

Key Words: Autism Spectrum Disorders, prenatal, perinatal, risk factors, stres, parental age

INTRODUCTION

Autism spectrum disorder (ASD) is a neurodevelopmental disorder characterized by issues in interaction and communication, restricted/repetitive interests and behaviors, and it arises from a genetic basis through the interaction of multiple factors (1). The prevalence of ASD has been increasing, with a reported prevalence of 1 in 36 as of 2023 (2).

Although the etiology of ASD is not yet fully understood, studies focus on genetic and environmental factors, with emphasis on epigenetic mechanisms (3-5). The epigenetic effect of environmental factors, indirectly affecting brain development, may act through changes in gene function or regulation of gene expression during developmental stages (6,7). Considering that the prenatal-perinatal-postnatal periods are critical and vulnerable neurodevelopmental phases, it is important to evaluate whether the environmental factors a baby is exposed to during these periods are risk factors for the development of ASD. Among environmental factors, maternal infections during pregnancy, medical and psychiatric conditions, advanced parental age, maternal smoking/alcohol/drug use, emotional stress, delivery method and timing, birth complications such as hypoxia or hyperbilirubinemia, and vitamin D deficiency have been investigated in different studies with varying results (8). It has been emphasized that these data need further support, and advanced parental age has been identified as the most consistent and significant risk factor (9). Studies also suggest that age differences between parents might be a risk factor for the

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development of ASD, and further research on this topic is limited (9-11). Given that greater age differences between parents might increase familial stressors such as conflicts and misunderstandings, it could be valuable to examine the relationship between parental age difference and maternal stress. Prenatal maternal stress has recently been studied in ASD etiology, with research suggesting that maternal exposure to social, environmental, and familial stressors during pregnancy could negatively affect fetal brain development (12).

There is still much to learn about the factors predicting the severity of ASD. While some studies suggest that prenatal-perinatal-postnatal factors increase the risk of ASD, few have examined their effects on ASD severity. One study found no correlation between these risk factors and ASD severity (13). Other studies have identified predictors such as male gender, advanced parental age, maternal gestational diabetes, preeclampsia, parental depression, maternal stress, and preterm birth, though results vary across studies (14-16). In the literature, there are few studies evaluating these risk factors based on the clinical severity of autism (17).

In conclusion, studies suggest that complications during pregnancy, birth, and the postnatal period, as well as related negative factors, are more frequently observed in children diagnosed with ASD compared to normally developing children (8). Although these risk factors are not specific to ASD, identifying and supporting these factors through research is important for developing prevention strategies and understanding the etiology of ASD. Our study aims to compare prenatal, perinatal, and postnatal factors, as well as sociodemographic characteristics, based on autism severity. Additionally, we aim to evaluate the relationship between maternal stress and the age difference between parents, which is considered a possible risk factor for ASD. Ultimately, the goal is to contribute to identifying preventable risk factors for ASD.

METHOD

Sample

This study included 100 children aged 18-72 months who were diagnosed and followed up with ASD in our clinic between November 2022 and June 2023, according to DSM-V diagnostic criteria. Ethical approval was obtained from Muğla Sıtkı Koçman University Ethics Committee (Protocol No: 220088 Decision No: 77). Detailed informed consent was obtained from the families of the patients. The study group consisted of children diagnosed with ASD according to psychiatric evaluation, clinical observation, and DSM-V, without other neurodevelopmental disorders affecting cognitive development or diagnosed genetic/neurological/metabolic diseases. The study group included both newly diagnosed ASD cases and those with continued follow-up in the 18-72 month range. Newly diagnosed ASD cases were referred to the Ear-Nose-Throat department for routine hearing evaluations and to the pediatric neurology department for neurological examination.

A form prepared by the researchers was used to collect sociodemographic information, as well as questions about possible prenatal-perinatal-postnatal risk factors for ASD. The clinical data form included questions to evaluate parental age, the age difference between parents, education and employment status, and family characteristics, as well as to screen for risk factors during pregnancy, birth, and the postnatal period. Prenatal factors evaluated included threatened miscarriage, smoking/alcohol/substance use, infection history, medication use, physical illness history, trauma, history of surgery, maternal stress, psychiatric complaints/disorders, loss or bereavement, and marital/relationship problems. The presence of maternal stress was determined based on reports of relationship issues with the spouse, psychiatric complaints/disorders, or loss history. The presence of any of these factors was considered as maternal stress. Perinatal factors included delivery method, birth timing, birth weight, birth complications, hypoxia, and incubator/intensive care history. Postnatal factors included jaundice, blood transfusion, vaccinations, postnatal surgeries, trauma, ill-

nesses, and developmental regression. Regression was assessed through interviews with families. Due to families' inability to provide detailed early information, a broad definition of regression was used, without specifying severity or duration, and included any regression in language or social interaction skills (18).

The clinical severity of autism was assessed using the Childhood Autism Rating Scale (CARS), and children with ASD were divided into two subgroups based on severity. To ensure consistency among raters, CARS was administered by a single researcher for each child. To assess marital/relationship issues believed to impact maternal stress, the Birtchnell Partner Evaluation Scale – female form was administered to mothers. To evaluate relationship issues during pregnancy, mothers were asked to respond to the questions in the Birtchnell Partner Evaluation Scale while reflecting on the pregnancy period. To prevent interpretation errors, the researcher completed the questionnaire by asking the mothers the questions directly.

Childhood Autism Rating Scale (CARS): The CARS is a 15-item, clinician-administered behavioral assessment tool used to determine the clinical severity of autism, ranging from mild to moderate to severe. Scores range from 15 to 60, with a score above 30 supporting an autism diagnosis, and increasing scores indicating higher severity. Scores between 30-36.5 indicate mild to moderate severity, while scores of 37 and above indicate severe autism. The Turkish validity and reliability of the scale were established by İncekaş (19).

Birtchnell Partner Evaluation Scale (BPES): Developed by Birtchnell, the BPES consists of separate forms for men and women, assessing their evaluations of each other. The female form consists of 79 items, while the male form consists of 72 items. The evaluated dimensions are dependency (D), detachment (DP), control (C), and reliability (R). Participants are asked to respond with 'Yes', 'Undecided', or 'No'. Scores are obtained for each subscale, indicating the degree to which the relevant characteristics are present. The dependency subscale is related to a lack of self-confidence, a need for continuous help and support, and excessive attention. The control subscale is related to dominance over the spouse, relegating the spouse to a secondary role, and assuming excessive responsibility. The detachment subscale is related to emotional isolation and a desire to be alone. The reliability subscale is related to accepting the spouse as they are, supporting the spouse, and expressing emotions. The reliability subscale enhances marital harmony, while the control, detachment, and dependency subscales indicate traits that hinder a harmonious marriage. The Turkish validity and reliability of the scale were conducted by Kabakçı and colleagues (21).

Statistical Analysis

Statistical analyses were performed using SPSS 26.0 (SPSS Inc., Chicago, IL, USA) software. The distribution of the data was evaluated using skewness and kurtosis values, and the data were found to be normally distributed. Numerical variables with a normal distribution were presented as mean ± standard deviation. Categorical variables were presented as frequencies and percentages, and chi-square tests were used to determine the relationships between categorical variables. Independent t-tests were used for comparisons of normally distributed numerical data between groups. Pearson correlation analysis was used to assess the direction and strength of relationships for parametric data. A significance level of $p < 0.05$ was considered statistically significant, with a 95% confidence interval.

RESULTS

In our study, 22 girls (22%) and 78 boys (78%) were diagnosed with ASD. The average age of children in the mild-moderate ASD group was 46.64 ± 16.03 months, while it was 40.79 ± 14.27 months in the severe ASD group. Sociodemographic characteristics of the mothers and fathers of children diagnosed with ASD showed that 70% of the mothers (n=70) were not working, 95% of the fathers (n=95) were working, and most of the parents were high school or university graduates (mothers: n=60, 60%; fathers: n=56, 56%). Almost all families (n=96, 96%) had a nuclear family structure, and consanguineous marriage was observed in 12 families (12%). The rate of autism diagnosis among

Table 1: Comparison of Sociodemographic Data According to Autism Severity

	Mild-Moderate ASD (n=61)	Severe ASD (n=39)	p-value
Age (months), mean – SD	46.64 – 16.03	40.79 – 14.27	0.067*
Maternal age during pregnancy (years), mean – SD	29.77 – 5.94	29.85 – 6.43	0.952*
Paternal age during pregnancy (years), mean – SD	33.98 – 6.16	33.97 – 6.73	0.994*
Age difference between parents (years), mean – SD	4.62 – 3.46	5.72 – 3.83	0.142*
Gender (n, %)			
Male	49 (80.3%)	29 (74.4%)	0.482**
Female	12 (19.7%)	10 (25.6%)	
Maternal education level (n, %)			
Illiterate	0 (0%)	1 (2.6%)	0.145**
Primary school	15 (24.6%)	6 (15.4%)	
Middle school	7 (11.5%)	11 (28.2%)	
High school	18 (29.5%)	11 (28.2%)	
College/University	21 (34.4%)	10 (25.6%)	
Paternal education level (n, %)			
Illiterate	0 (0%)	0 (0%)	0.203**
Primary school	13 (21.3%)	8 (20.5%)	
Middle school	13 (16.4%)	13 (33.3%)	
High school	21 (34.4%)	8 (20.5%)	
College/University	17 (27.9%)	10 (25.6%)	
Marital status (n, %)			
Married	59 (96.7%)	37 (94.9%)	0.642***
Separated	2 (3.3%)	2 (5.1%)	
Family history of autism (n, %)			
Yes	14 (23.0%)	13 (33.3%)	0.254**
No	47 (77.0%)	26 (66.3%)	
Consanguineous marriage (n, %)			
Yes	9 (14.8%)	3 (7.7%)	0.358***
No	52 (85.2%)	36 (92.3%)	
Maternal employment status (n, %)			
Employed	18 (29.5%)	12 (30.8%)	0.893**
Unemployed	43 (70.5%)	27 (69.2%)	
Paternal employment status (n, %)			
Employed	57 (93.4%)	38 (97.4%)	0.646***
Unemployed	4 (6.6%)	1 (2.6%)	

*Independent t-test, **Chi-square test, ***Fisher s Exact Test
Mean – SD: Mean – Standard Deviation

the families and relatives was 27% (n=27).

The average age of mothers in the mild-moderate ASD group was 29.77 ± 5.94 years, while in the severe ASD group, it was 29.85 ± 6.43 years. The average age of fathers in the mild-moderate ASD group was 33.93 ± 6.16 years, and in the severe ASD group, it was 33.97 ± 6.73 years. There was no significant difference in parental age between the two groups (p=0.952 for mothers, p=0.994 for fathers). When the age difference between parents was compared between the two groups, the difference was 4.62 ± 3.46 years in the mild-moderate ASD group and 5.72 ± 3.83 years in the severe ASD group, with no statistically significant difference (p=0.142). Other sociodemographic data did not differ significantly between the groups, and these data are presented in Table 1.

When prenatal risk factors in children with ASD were evaluated, 25 mothers (25%) experienced threatened miscarriage during pregnancy, 25 mothers (25%) smoked during pregnancy, 58 mothers (58%) had a history of medication use during pregnancy, including painkillers, antibiotics, and hormone therapy (n=26, n=18, n=13, respectively), 28 mothers (28%) had a history of infections during pregnancy (9 upper respiratory infections, 14 urinary tract infections), 19 mothers (19%) had a history of significant physical illness (4 hypothyroidism, 3 diabetes mellitus, 4 hypertension, 5 migraine, 1 gastritis, 1 shingles, 1 fibromyalgia), 39 mothers (39%) reported psychiatric symptoms/disorders, 32 mothers (32%) experienced marital conflicts and communication problems, and 5 mothers (5%) had a history of loss or bereavement.

Regarding perinatal and postnatal risk factors, 26

Table 2: Comparison of Prenatal, Perinatal, and Postnatal Characteristics According to Autism Severity

	Mild-Moderate ASD (n=61)	Severe ASD (n=39)	p-value
Threatened miscarriage			
Yes	13 (21.3%)	12 (30.8%)	0.287
No	48 (78.7%)	27 (69.2%)	
Maternal smoking during pregnancy			
Yes	13 (21.3%)	12 (30.8%)	0.287
No	48 (78.7%)	27 (69.2%)	
Maternal medication use during pregnancy			
Yes	34 (55.7%)	24 (61.5%)	0.579
No	27 (44.3%)	15 (38.5%)	
Maternal infection history during pregnancy			
Yes	19 (31.1%)	9 (23.1%)	0.381
No	42 (68.9%)	30 (76.9%)	
Maternal physical illness during pregnancy			
Yes	12 (19.7%)	7 (17.9%)	0.830
No	48 (80.3%)	32 (82.1%)	
Maternal stress during pregnancy			
Yes	32 (52.5%)	19 (48.7%)	0.715
No	29 (47.5%)	20 (51.3%)	
Maternal psychiatric symptoms/disorders			
Yes	24 (39.3%)	15 (38.5%)	0.930
No	37 (60.7%)	24 (61.5%)	
Parental relationship issues during pregnancy			
Yes	23 (37.7%)	9 (23.1%)	0.126
No	38 (62.3%)	30 (76.9%)	
Maternal loss during pregnancy			
Yes	4 (6.6%)	1 (2.6%)	0.646
No	57 (93.49%)	38 (97.4%)	
Delivery method			
NSVD (normal vaginal delivery)	17 (27.9%)	9 (23.1%)	0.594
C/S (cesarean section)	44 (72.1%)	30 (76.9%)	
Birth timing			
Preterm	8 (13.1%)	14 (35.9%)	0.007
Term	53 (86.9%)	25 (64.1%)	
Birth weight			
Low birth weight	8 (13.1%)	9 (23.1%)	0.196
Normal birth weight	53 (86.9%)	30 (76.9%)	
Hypoxia/asphyxia during birth			
Yes	3 (4.9%)	2 (5.1%)	1.000
No	58 (95.1%)	37 (94.9%)	
Incubator/intensive care history			
Yes	12 (19.7%)	9 (23.1%)	0.683
No	49 (80.3%)	30 (76.9%)	
Jaundice history			
Yes	25 (41.0%)	17 (43.6%)	0.797 *
No	36 (59.0%)	22 (56.4%)	
Phototherapy history			
Yes	18 (29.5%)	12 (30.8%)	0.893
No	43 (70.5%)	27 (69.2%)	
Head trauma history			

children (26%) were born through normal spontaneous vaginal delivery, while 74 children (74%) were delivered via cesarean section. Preterm birth history was present in 22 children (22%), 17 children (17%) had low birth weight, 21 children (21%) had an incubator/intensive care history, and 42 children (42%) had a history of jaundice. A history of head trauma during the 0-18 month period was reported for 11 children (11%), and 12 children (12%) had a history of significant physical illness during the postnatal period. Regression, defined broadly, was identified in 33 children (33%).

When the mild-moderate and severe ASD groups were compared regarding prenatal, perinatal, and postnatal risk factors, preterm birth and regression history were found to be significantly higher in the severe ASD group (p=0.007 and p=0.025, respectively). Other prenatal, perinatal, and postnatal risk factors were similar between the two groups. No children in either group had undergone blood transfusion, and all postnatal vaccinations were completed. The comparison of prenatal, perinatal, and postnatal risk factors according to ASD severity is presented in Table 2.

When the relationship between the age difference between parents and marital/relationship problems was evaluated, no significant correlation was found (dependency subscale: p=-0.076, r=0.453; detachment subscale: p=0.070, r=0.487; control subscale: p=0.131, r=0.194; reliability subscale: p=-0.044, r=0.665). The results are presented in Table 3.

When BPES subscales were compared between the

Table 3: Relationship Between Age Difference Between Parents and BPES Subscales

BPES Subscale	Correlation Coefficient (r)	p-value
Dependency (BPES)	-0.076	0.453
Detachment (BPES)	0.070	0.487
Control (BPES)	0.131	0.194
Reliability (BPES)	-0.044	0.665

Pearson Correlation Analysis
BPES: Birtchnell Partner Evaluation Scale

Table 4: Comparison of BPES Subscales According to Autism Severity

BPES Subscale	Mild-Moderate ASD (n=61)	Severe ASD (n=39)	p-value
Dependency (BPES)	26.80 ± 6.247	24.87 ± 4.060	0.064*
Detachment (BPES)	25.26 ± 7.874	28.59 ± 8.197	0.045*
Control (BPES)	33.08 ± 11.104	32.10 ± 10.445	0.661*
Reliability (BPES)	56.70 ± 12.976	60.74 ± 11.180	0.113*

*Independent t-test
BPES: Birtchnell Partner Evaluation Scale

mild-moderate and severe ASD groups, the detachment subscale was significantly higher in the severe ASD group (p=0.045). The other BPES subscales did not differ significantly between the two groups. The comparison of BPES subscales according to ASD severity is shown in Table 4.

DISCUSSION

In our study, preterm birth and regression were found to be significantly more common in the severe ASD group compared to the mild-moderate group. No significant relationship was found between the age difference between parents and marital/relationship issues as assessed by the BPES subscales. However, the detachment subscale of BPES was significantly higher in the severe ASD group.

When examining the sociodemographic data in our study, no significant differences were found regarding autism severity. Studies have shown that increasing parental age raises the risk of ASD. Advanced paternal age is considered the most consistent environmental risk factor for ASD (22). One study found that both maternal and paternal age had similar effects on ASD risk, and a meta-analysis indicated that advanced maternal age increased ASD risk by 41%, while advanced paternal age increased it by 55% (23). Advanced maternal age may contribute to ASD risk through chromosomal and genomic changes and associated obstetric and fetal complications (24). However, some studies report no increased risk of ASD associated with advanced maternal age (25,26). The more pronounced effect of advanced paternal age on ASD risk might be due to the accumulation of de novo mutations, as men can have children later in life (9,27).

Although parental age has been studied as a risk factor for ASD for a long time, studies examining its relationship with ASD symptom severity are more limited. Some studies found that paternal age is a significant predictor of autism severity (17). In a retrospective study of 351 children, no relationship was found between increasing parental age and phenotypic severity of ASD (28). Another study investigating the relationship between maternal age and the severity of cognitive and social deficits in ASD also found no significant association between age and severity (29). In our study, when we evaluated parental age in mild-moderate and severe ASD groups, no significant differences were found. Some recent studies suggest that a large age difference between parents could also be a risk factor for ASD (9). One study reported that children of parents with smaller age differences had a lower risk of ASD, while those with larger age differences had a higher risk (10). A retrospective study in our country also reported that the age difference between parents was higher in the ASD group compared to the control group (11). However, no studies were found comparing the age difference between parents according to the severity of autism. In our study, when we evaluated the age difference between parents in the autism severity groups, no significant differences were observed. Given the inconsistent data, further studies are needed to evaluate these findings.

When prenatal risk factors were compared according to severity, preterm birth was found to be significantly more common in the severe ASD group. Previous research has reported that adverse factors during pregnancy are more frequently observed in children with ASD (30). Factors such as medication use during pregnancy, maternal physical illness, emotional stress, smoking, alcohol, and substance use, prematurity, hypoxia, and low birth weight have been associated with neurodevelopmental disruption and increased ASD risk, though further research is needed to support these findings (31,32).

In studies evaluating prenatal-perinatal-postnatal factors and their effects on ASD severity, one study found no relationship between these factors and

ASD severity (33). However, another study reported that conditions such as preeclampsia, polyhydramnios, oligohydramnios, and gestational diabetes were associated with more stereotyped behaviors and social communication difficulties (14). Another study found that maternal hypertension, preeclampsia, and parental depression were linked to more severe communication deficits and repetitive behaviors in children with ASD (15). In addition, maternal stress during the prenatal period has been reported to contribute to ASD symptom severity in some studies (34). A recent study also showed that preterm birth and obstetric complications were associated with more severe autism (16). Our study also found that preterm birth was significantly more common in the severe ASD group. Recent research suggests that ASD prevalence is higher in preterm infants and that a shorter gestational period is associated with greater neurodevelopmental vulnerability (35-37). A meta-analysis found that preterm children (gestational age < 37 weeks) had approximately a 30% higher risk of ASD compared to full-term children (38). The possible mechanism for the association between preterm birth and ASD risk has not been fully determined, though it may involve inflammatory pathways (39,40). Increased levels of pro-inflammatory cytokines, particularly IL-1, IL-6, and TNF, have been associated with uterine activation and the initiation of preterm labor. These increased cytokine levels in preterm infants may also negatively impact neurodevelopment during early childhood (41,42). Fetal brain development continues throughout the third trimester (43), so preterm birth may disrupt neurodevelopmental processes and increase the risk of neurodevelopmental disorders, motor, and sensory abnormalities. Although preterm birth has been identified as a risk factor for ASD, its effects on symptom severity remain unclear. Some studies have found that children born prematurely with ASD are at higher risk of poorer neurodevelopmental outcomes compared to full-term children with ASD. One study found that children with ASD born preterm had greater difficulties with non-verbal social interaction skills, such as social smiling and communicative facial expressions, compared to full-term children with ASD (44). Although some prenatal/perinatal factors may affect ASD severity, further studies are needed to confirm these findings.

When postnatal risk factors were compared according to severity, regression was found to be more common in the severe ASD group. In autism regression, language skills are most affected, and social interests and abilities, play, and rarely motor skills may also be impacted (45,46). Some researchers suggest that social skill loss may occur alone and might even be the more common type of regression (47). Regression is generally defined as the loss of learned developmental skills such as language, motor, or social abilities. However, retrospective assessment of regression through parent interviews can lead to varying results, limiting the validity and reliability of its identification (48). Studies have reported regression rates ranging from 10% to 50%, with an overall prevalence of 30% (49). The broad use of the term "regression" in different studies likely contributes to the wide range of reported rates. In our study, a broad definition of regression was used, and the regression rate was 31%, consistent with other studies in the field.

Little is known about the underlying causes of regression, and findings regarding the relationship between regression and ASD symptom severity are inconsistent. Most studies suggest that children with regression have more severe core ASD symptoms and more severe overall disease severity compared to children without regression (50,51). However, some studies have found no difference in disease severity between children with and without regression (52,53). In one study, no differences were found in obstetric and prenatal risk factors between children with and without regression (55). These inconsistent findings may be due to the small sample sizes and limited number of children included in the studies.

In our study, no significant relationship was found between the age difference between parents and marital/relationship issues as assessed by BPES subscales. Research suggests that maternal exposure to social, environmental, and familial stressors during pregnancy can negatively affect fetal brain development. One study found that children of mothers who experienced stress between the 25th and 28th weeks of pregnancy had a higher likelihood of developing autism (56). Another study reported that inappropriate psychological stress,

especially in mothers with severe and long-lasting psychiatric disorders, was associated with an increased risk of ASD (57). Increased maternal stress during the prenatal period can activate the hypothalamic-pituitary-adrenal axis, leading to the release of cortisol and norepinephrine. These stress hormones can cross the placenta and negatively affect fetal development (58,59). Stress during pregnancy may also increase ASD risk through other mechanisms, though this remains uncertain. Some studies suggest that stress affects inhibitory neuronal systems, serotonin pathways, and fetal testosterone levels, though more research is needed (60,61). Epigenetic mechanisms may also influence the expression of genes related to neurobiology, metabolism, and physiology, contributing to ASD etiology (62). Prenatal maternal stress is considered a non-specific risk factor, and high maternal stress during pregnancy may be associated with other risk factors (12). In our study, we evaluated the relationship between maternal stress and the age difference between parents, another potential risk factor, but no significant relationship was found. Maternal stress can be oxidative, psychological, or physical in nature, and in our study, we primarily assessed psychological stress through marital and relationship issues during pregnancy using the BPES. Whether parental age is an independent risk factor for ASD is not clear (63). The lack of a relationship between the age difference between parents and maternal stress in our study suggests that parental age may not be an independent risk factor and could be related to other factors. Given the lack of clarity regarding the relationship between maternal stress and ASD, it is possible that the interaction of maternal stress and parental age with multiple other risk factors is significant. More studies are needed to evaluate the relationship between marital/relationship issues, parental age differences, and other risk factors in larger samples.

There is evidence that maternal stress can increase the severity of ASD. One study found that exposure to stressful life events during pregnancy was a significant predictor of ASD symptom severity (34). Another study showed that children of mothers who experienced natural disasters during pregnancy had higher autism spectrum scores (60). In our study, the relationship between ASD severity and BPES subscales was evaluated, and the detachment subscale was found to be significantly higher in the severe ASD group. The dependency subscale of BPES reflects dependent traits in spouses, while the control subscale relates to control over the spouse. The detachment subscale is primarily related to emotional detachment. Thus, the detachment subscale may be more relevant for assessing emotional stress in relationships. In our study, mothers in the severe ASD group rated their relationships with their spouses during pregnancy as more emotionally detached and distant compared to mothers in the mild-moderate group. Emotional detachment from their spouses during pregnancy may have increased maternal stress, contributing to the severity of ASD. Our findings are consistent with the limited studies in the field.

One limitation of our study is that only marital/relationship issues were evaluated as a maternal stress factor using BPES subscales. Psychiatric evaluations and records during pregnancy, as well as postnatal maternal stress factors, were not included, which is another limitation.

The absence of a control group, the small number of participants, the lack of developmental assessments for the children, and the retrospective nature of the data collection using questionnaires are other important limitations of our study.

There is still much to learn about the factors predicting the severity of autism spectrum disorders. While studies suggest that prenatal-perinatal-postnatal factors increase the risk of ASD, few have examined their effects on ASD severity. Our study found that preterm birth and regression were more common in the severe ASD group. Given the limited number of studies evaluating potential risk factors based on ASD severity, our findings may contribute to the literature. Additionally, identifying and controlling preventable risk factors, such as preterm birth, could be important for the development and severity of neurodevelopmental disorders.

Prenatal maternal stress has recently been studied as a factor contributing to ASD etiology, and some studies suggest that it increases ASD severity. Our

study also found that mothers in the severe ASD group rated their relationship with their spouse during pregnancy as more emotionally detached. Emotional detachment from their spouse during pregnancy may have increased maternal stress, contributing to the severity of ASD. Recognizing, monitoring, and intervening in maternal stress during pregnancy may help reduce its potential negative effects on ASD severity. Future studies should include other maternal stress factors beyond marital/relationship issues, with larger sample sizes, to confirm these findings.

High maternal stress during pregnancy may be associated with other risk factors. In our study, no significant relationship was found between maternal stress and the age difference between parents. Since many risk factors for ASD remain unclear, it is possible that maternal stress and parental age may only be significant in interaction with multiple other risk factors.

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Diagnostic conundrum: A rare case of psychosis in leptospirosis among siblings with folie à trois

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SUMMARY

Folie à Trois is a rare presentation of psychosis. It has been described in several case reports, but there is a lack of studies to understand the mechanism and management of this disease. We presented a case of three siblings who share the same delusional idea initially induced by one of the sisters who had neuropsychiatric manifestations of leptospirosis. The siblings exhibited a shared pattern of aggressive behaviors, auditory hallucinations, and persecutory delusions toward each other. Intriguingly, two of the sisters displayed improvement even without pharmacological intervention. The case highlights the complexity of differentiating shared psychotic disorder from organic etiologies, emphasizing the importance of multidisciplinary assessments in unraveling intricate clinical presentations. The distinctive temporal resolution of psychiatric symptoms among the siblings underscores the need for nuanced diagnostic considerations in shared psychotic disorders. This case report contributes to the understanding of the interplay between infectious diseases and psychiatric manifestations, urging clinicians to exercise meticulous scrutiny in cases of shared psychotic disorders masquerading as organic illnesses.

Keywords: Folie à trois, Leptospirosis, Shared delusion

INTRODUCTION

Folie à deux, or shared psychotic disorder, demonstrates inherent distinctions when juxtaposed with other psychiatric conditions (1). This uncommon entity is characterized by the transmission of psychotic symptoms from one individual (the inducer) to another (the induced) (2). This condition may arise in individuals living in close emotional proximity to those with mental illness, particularly psychotic disorders (3). Building upon this framework, folie à trois, an extension of the concept, describes a scenario where the shared delusion involves three individuals (4). The diagnosis known as "Shared Psychotic Disorder" was included in the DSM-III and DSM-IV. However, in the DSM-5, it no longer exists as an independent diagnosis but is instead classified under other specified schizophrenia spectrum disorders (5). The concept has since evolved, and according to the ICD-10, the diagnosis is now based solely on phenomenology. However, there is still a lack of information on the prevalence, natural history, and optimal treatment of folie à deux, and its etiology remains unknown (6).

We presented a case report of three siblings who presented with psychosis. One of them was positive for leptospirosis. Two of them had no evidence of leptospirosis or brain infection; however, they still manifested psychotic symptoms that resolved later, even without antipsychotics.

Leptospirosis, a globally distributed zoonosis, is prevalent in tropical and temperate regions, particularly in emerging nations in Oceania, the Caribbean, Latin America, sub-Saharan Africa, and South and Southeast Asia. These geographical areas experience elevated mortality and morbidity rates associated with the disease (7). However, the occurrence of neuropsychiatric manifestations in leptospirosis is infrequent, as documented in the literature through case reports and case series.

Despite the rarity of neuropsychiatric manifestations in leptospirosis, this case report aims to explore the potential link between leptospirosis and shared psychotic disorder. Our hypothesis is that leptospirosis might contribute to or exacerbate the presentation of psychotic symptoms in individuals with preexisting close emotional ties, thereby

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influencing the development of folie à trois. By examining this unique case of three siblings, including one diagnosed with leptospirosis, we aim to shed light on the possible neuropsychiatric effects of leptospirosis and its impact on the dynamics of shared psychotic disorder. This study intends to contribute to the existing literature by providing insights into the relationship between infectious diseases and psychotic manifestations, potentially guiding future clinical assessments and management of similar cases.

CASE REPORT

Mrs. A, a 26-year-old woman residing with her sisters, Mrs. B (38-year-old) and Mrs. C (35-year-old), presented to the emergency department with aggressive behavior for three days before admission to the medical ward. Initially observed in Mrs. A and subsequently in Mrs. B and Mrs. C, all three siblings exhibited similar symptoms, including self-directed conversations, wandering, disrupted sleep, poor appetite, auditory hallucinations (commanding in nature, instructing them to eat and inflict harm), and aggressive behaviours such as biting. The siblings harbored persecutory delusion towards each other, accusing one another of malicious intentions, leading to verbal altercations. They also firmly believe that the villagers are plotting bad things toward them. They had no symptoms of manic or depressive symptoms. Mrs. A has no known history of pre-existing medical conditions. The family history indicated no known occurrences of mental illness.

Upon admission, the mental state examination revealed that the patients admitted to experiencing second-person auditory hallucinations and visual hallucinations of seeing ghosts. Additionally, the patients exhibited paranoid delusions.

They showed no evidence of delirium based on the Confusion Assessment Method (CAM) and lacked signs of infection except for Mrs. A, who had a three-day fever prior to admission. Mrs. A was tachypneic with low-grade fever, while other siblings' vital signs and temperature were normal. Their neurological examinations were normal, and there were no signs of neck stiffness.

Baseline investigations, including total white cell counts, were unremarkable, except for elevated liver function tests in Mrs. A. Mrs. A also had increased creatinine kinase, erythrocyte sedimentation rate, and C-reactive protein. Screening for HIV, Hepatitis B, Hepatitis C, and blood malarial parasites yielded negative results. MRI brain scans and lumbar punctures were both unremarkable.

A notable finding was the positive serum IgM Leptospirosis test in Mrs. A. It was done because all of them come from remote areas known for several cases of leptospirosis. Hence, Mrs. A was admitted to the medical ward. Her siblings were also admitted to the medical ward for observation. Intravenous Acyclovir and Ceftriaxone were administered to all three sisters to address potential encephalitis and leptospirosis. Subsequently, the intravenous Acyclovir and Ceftriaxone were off for Mrs. B and Mrs. C on day three of admission because of no sign of infection, and the psychotic symptoms also improved. The psychiatric team diagnosed Mrs. A with a psychotic disorder due to leptospirosis. Concurrently, the psychiatric team also identified shared delusional disorder (folie à trois) for Mrs. B and C. The psychotic symptoms were managed with Haloperidol (up to 5 mg/day) for Mrs. A. However, antipsychotics were not given to Mrs. B and C. Mrs. B and C, separated from Mrs. A in the ward, demonstrated improvement in psychotic symptoms even without antipsychotics and were discharged earlier. Mrs. A's psychosis resolved on day 20, leading to her discharge. Follow-up assessments revealed no psychotic symptoms in all of them, who functioned normally without antipsychotics.

DISCUSSION

Leptospirosis, a biphasic febrile illness prevalent in tropical and subtropical regions, poses a substantial global health concern as a neglected tropical zoonotic disease (8, 9). The clinical spectrum of leptospirosis manifests across a range of severity, from mild influenza-like symptoms to severe syndromes indicative of multiorgan failure (9). The disease's potential for misdiagnosis, exacerbated by nonspecific symptoms, underscores the gravity of its impact, particularly in the severe form known as Weil's disease, which often leads to fatal outcomes, primarily due to complications such as renal failure

(8). While primary neuroleptospirosis is a rare occurrence, it has been documented in the literature through case reports and case series (10).

The pathophysiological mechanisms underpinning leptospirosis remain incompletely understood, with a dearth of knowledge in the literature regarding the intricate cellular interactions facilitated by Leptospira (7, 8). Leptospira species exhibit a notable capacity to adhere, invade, and replicate within host cells, necessitating an urgent refinement of research efforts to elucidate their precise pathophysiological framework (8). The leptospiral endotoxin, glycolipoprotein (GLP), targets Na/K-ATPase at the molecular level, inducing lipotoxicity that inhibits Na/K-ATPase activity. This mechanism contributes to diverse clinical manifestations in various organs and tissues, compromising nerve impulse generation and conduction in neurons and excitable cells (7).

Diagnosing leptospirosis relies on the recovery of the organism through culture, macro agglutination tests, and dark field microscopy. Recognition of manic and psychotic symptoms, along with fever and elevated transaminase as well as CK levels, particularly in high-risk occupational groups during rainy periods, should alert physicians to the potential presence of leptospirosis (11). Notably, healthcare professionals working in regions with high leptospirosis incidence must be attuned to cases where the primary presentation is neurological, facilitating prompt diagnosis and implementation of appropriate treatment strategies (9).

Mrs. A was diagnosed by the psychiatric team with a psychotic disorder due to leptospirosis. Simultaneously, the team identified folie à trois in the case of Mrs. B and C. Folie à trois, also referred to as shared psychotic disorder, presents an atypical psychiatric condition wherein delusional convictions are transmitted from one individual to one or more susceptible individuals closely connected. As of now, this remains an infrequent yet intricate psychiatric diagnosis (12). This rare psychotic syndrome, alternatively termed Folie à trois, Shared Psychosis, or Induced Delusional Disorder, involves the transfer of delusional beliefs or aberrant behavior from one individual to another or to others closely associated with the primary affected person (3). Notably, only the inducer experiences an authentic psychotic disorder, while the induced individuals typically recover following separation from the inducer (2).

Folie à trois, an infrequent mental disorder, manifests in situations where close emotional bonds exist among two or more individuals, with only one of them experiencing a genuine psychotic disorder. The delusions originating from the inducer are transmitted to individuals who come into contact, ceasing upon separation from the inducer (3). Recognized by a collective adherence to delusional beliefs, shared psychotic disorders typically arise within pairs or groups characterized by close relationships and social isolation. Significantly, the cognitive and emotional functions of those affected by shared psychotic disorders generally remain unaffected, contributing to the scarcity of identification, diagnosis, and treatment. The clinical manifestation of this disorder encompasses a multifaceted aspect, extending beyond the traditional focus on delusions, potentially elucidating the conflicting outcomes observed with various treatments (1). Mental illness in the dominant individual often assumes a schizophrenic nature, with initial fixation and induced delusions exhibiting a chronic nature and often involving ideas of persecution, influence, poisoning, or grandeur. Deluded thoughts are transmitted under specific circumstances, characterized by close group contacts and isolation from alternative languages, cultures, or geographies (3).

Folie à trois has emerged as a condition marked by heterogeneity, characterized by a complex etiopathogenesis (1). Notably, there exists a lack of consensus among researchers regarding the uniformity of opinions concerning the incidence of this disorder in relation to gender, age groups, and various interpersonal relationships, such as those between partners, siblings, parents, and children. However, a prevailing consensus acknowledges long-term social isolation as a common risk factor, alongside dominance and potent power of suggestion in one partner, complemented by passivity and susceptibility to suggestion in the other (2). The phenomenon of induced delusions within this context can be perceived as a manifestation of a "learning error," wherein the recipient becomes persuaded by delusional interpretations of events due to distorted perceptions. Functional imaging analysis reveals disparate activities in the same areas of the

cerebral cortex between the inducer and the recipient. Specifically, there is an augmented volume and localization of activation in the cerebral cortex of the inducer compared to the recipient (13). This intricacy underscores the multifaceted nature of Folie à deux and invites further exploration into its underlying mechanisms.

Induced delusions, autonomously and without therapeutic intervention, may dissipate upon the separation or isolation of the affected individuals from the mentally ill person who triggered the onset of psychotic symptoms (3). The therapeutic approach for shared psychotic disorders encompasses the separation of individuals involved, coupled with pharmacotherapy utilizing antipsychotics. This case introduces a distinctive ethical dilemma wherein the psychiatric team was summoned to assess a patient and discovered both the patient and another individual exhibiting symptoms. In conclusion, the consideration of a shared psychotic disorder becomes pivotal in the differential diagnosis when encountering cases of psychosis characterized by delusional systems on medical floors (14). The multifaceted nature of this disorder necessitates a comprehensive approach to understanding and addressing its intricacies.

In conclusion, this comprehensive case study highlights a unique association between leptospirosis and shared psychotic disorder (folie à trois) in three siblings, a connection not previously documented. Unlike other studies, which typically do not link infectious diseases with shared psychosis, our findings suggest leptospirosis can trigger psychotic symptoms. The successful resolution of psychosis in two siblings without antipsychotics, solely through separation and supportive care, further underscores a novel, non-pharmacological approach to managing such conditions. This study contributes valuable insights into the differential diagnosis and treatment of psychotic disorders in endemic regions.

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