

Simptomi anksioznosti i depresivnosti te stavovi spram pravednosti u svijetu u uzorku slijepih i gluhih osoba Osječko-baranjske županije

/ Symptoms of Anxiety, Depression and Attitudes Toward Justice in the World in a Sample of Deaf and Blind Persons in Osijek Baranja Region

Đorđe Pojatić¹, Dunja Degmečić^{1,2}

¹Sveučilište Josipa Jurja Strossmayera u Osijeku, Medicinski fakultet, Klinički bolnički centar Osijek, Klinika za psihijatriju, Osijek, Hrvatska

¹Josip Juraj Strossmayer University in Osijek, Faculty of Medicine, ²University Hospital Centre Osijek, Department of Psychiatry, Osijek, Croatia

Cilj istraživanja bio je odrediti razine simptoma depresivnosti, anksioznosti u slijepih i gluhih ispitanika, njihove stavove o pravdi u svijetu, usporediti navedene razine između dviju skupina i kontrolne skupine te usporediti socio-demografska obilježja triju ispitivanih skupina. Studija je provedena kao presječno istraživanje. U studiju je uključeno 49 slijepih, 46 gluhih i 38 ispitanika iz kontrolne skupine. Za procjenu simptoma depresije i anksioznosti korišteni su Bekovi upitnici za procjenu depresivnosti i anksioznosti. Stavovi o pravednosti u svijetu procijenjeni su Ljestvicom općih stavova o pravdi u svijetu (Dalbert, Schmidt, Montada). U anketiranju gluhih ispitanika sudjelovao je prevoditelj hrvatskoga znakovnog jezika, a slijepim ispitanicima upitnici su pročitani. Gluhe osobe statistički su značajno depresivnije i anksioznije u odnosu na kontrolnu skupinu ispitanika ($p < 0,001$, $p < 0,001$). Gluhe osobe nisu pokazale izraženije stavove o pravdi u svijetu u odnosu na ispitanike kontrolne skupine. Slijepe osobe imaju statistički značajno izraženije stavove o pravdi u svijetu ($p < 0,001$) te značajno više razine anksioznih simptoma u odnosu na kontrolnu skupinu ($p = 0,035$). Rezultati studije otkrivaju značajno više razine anksioznosti i depresivnosti gluhih i slijepih ispitanika, prikazuju negativnu korelaciju između izraženih stavova o pravdi u svijetu i razina anksioznosti u gluhih ispitanika. Rezultati prikazuju izraženije stavove o pravdi u svijetu u slijepih u odnosu na gluhe ispitanike i kontrolnu skupinu.

/ The aim of this study was to determine the level of anxiety and depression of deaf and blind people and their attitudes towards justice in the world. The aim was also to compare these levels between two groups and the control group and determine the sociodemographic characteristics of the three groups. The study was designed as a cross sectional study. The study included 46 deaf, 49 blind and 38 participants in the control group. Anxiety and depression levels were measured using the Beck Anxiety and Depression Inventory. Attitudes towards justice were measured using the General Belief in a Just World Scale. The group of deaf people was interviewed by a researcher using the Croatian Sign Language. A group of blind people was interviewed by the researcher. Deaf people had a significantly higher Beck Anxiety score ($p < 0,001$) and Beck Depression score ($p < 0,001$) compared to the control group. Deaf patients did not have a significantly higher General Belief score compared to the control group. Blind patients had a significantly higher General Belief score compared to the control group ($p < 0,001$) and a significantly higher Beck Anxiety score ($p = 0,035$) compared to the control group. The results of this study revealed significantly higher levels of depression and anxiety among deaf and blind patients, they showed a negative correlation between positive attitudes toward a just world and anxiety among deaf patients. They did show higher levels in attitudes of blind people towards a just world compared to deaf and control groups.

ADRESA ZA DOPISIVANJE /**CORRESPONDENCE:**

Izv. prof. prim. dr. sc. Dunja Degmečić, dr. med.

Medicinski fakultet Osijek

Sveučilište Josipa Jurja Strossmayera

J. Huttlera 4

31 000 Osijek, Hrvatska

E-pošta: ddegmecic@gmail.com

KLJUČNE RIJEČI / KEY WORDS:Depresija / *Depression*Anksioznost / *Anxiety*Pravedan svijet / *Just world*Sljepoća / *Blindness*Gluhoća / *Deafness***TO LINK TO THIS ARTICLE:** <https://doi.org/10.24869/spsih.2019.168>**UVOD**

Gluhoća se definira kao oštećenje sluha veće od 91 decibela na jednom uhu, koje je urođeno ili stečeno (1). Neovisno o dobi gubitka sluha, gluhe osobe pokazuju značajno višu pojavnost depresivnih i tjeskobnih simptoma u odnosu na osobe bez oštećenja sluha (2,3). Visoke razine stresa u gluhih osoba prema dosadašnjim istraživanjima proizlaze iz osamljenosti i nedostatka socijalnih kontakata (2). Isključenost iz socijalnih kontakata u gluhih osoba često dovodi i do pojave somatskih simptoma i socijalne disfunkcije čak i ako se radi o gluhoći nastaloj u mlađoj dobi, studentskoj populaciji (3). Navedeno su rizični čimbenici koji dovode do toga da gluhe osobe u odnosu na opću populaciju bez oštećenja sluha češće počine suicid, a osobito rizični faktori pri tomu su muški spol, starija životna dob te prisutnost više somatskih i psihijatrijskih komorbiditeta (4). Prevladavanje simptoma depresije i anksioznosti, prema rezultatima dosadašnjih studija, značajno ovisi o razini socijalne podrške okoline, prihvaćanju invaliditeta te odgovarajućem obrascu ponašanja prema ograničenjima koja proizlaze iz invaliditeta. Gluhe osobe s razrađenim strategijama pozitivnog mišljenja, rješavanja ograničenja proizašlih iz naglušnosti ostvaruju značajno višu kvalitetu života u odnosu na osobe s izbjegavajućim ponašanjima (5). Do sada je objavljeno nekoliko studija koje su utvrdile povoljan utjecaj

INTRODUCTION

Deafness is defined as a hearing impairment greater than 91 decibels in one ear, which can be either congenital or acquired (1). Regardless of the age when the hearing loss occurred, deaf people show significantly higher incidence of symptoms of depression and anxiety in comparison with people without any hearing impairment (2,3). According to research, high levels of stress in deaf people arise from loneliness and lack of social contact (2). Being excluded from social interactions often leads to the development of somatic symptoms and social dysfunction among deaf people, even if the hearing impairment occurred at a younger age, during student years (3). The aforementioned are risk factors which lead to deaf people committing suicide at a higher rate than the general population, while additional risk factors include the male sex, older age and additional somatic and psychiatric comorbidities (4). According to existing studies, the predominance of symptoms of depression and anxiety is significantly dependent on the level of social support from the person's surroundings, acceptance of disability and on following an adequate behavioural pattern in accordance with the limitations brought on by the disability. Deaf people with developed strategies of positive affirmation and dealing with limitations stemming from hearing impairment have a significantly higher quality of life compared to people with avoidance behaviour patterns (5). So far,

strategija suočavanja sa stresom na kvalitetu života i psihičko zdravlje gluhih ispitanika, no i dalje nedovoljno utvrđene ostaju strategije koje vode gluhe osobe prevladavanju stresa i psihičkom zdravlju (1).

Poseban problem u istraživanju pojavnosti simptoma psihijatrijskih bolesti i strategija za suočavanje s ograničenjima svakodnevnog života u populaciji gluhih osoba je činjenica da osobe koje su prelingvalno gluhe nisu u mogućnosti govoriti i pisati te se stoga služe znakovnim jezikom. Osobe sa stečenim gubitkom sluha, premda se također mogu koristiti znakovnim jezikom, obično su u mogućnosti čitati te ih je moguće ispitati standardnim upitnicima za procjenu psihijatrijskih simptoma. Primjena upitnika prevedenih na znakovni jezik čak je i u takvih ispitanika uspješna u mjerenju simptoma psihijatrijskih bolesti, no ostaje upitna racionalnost primjene upitnika standardiziranih na znakovni jezik, budući da je pisanim upitnicima također moguće adekvatno procijeniti depresivne i druge simptome (6).

Sličnu depresivnu reakciju, ograničenja svakodnevnog života i potrebu za psihičkom prilagodbom gore navedenom pokazuju osobe s potpunim ili djelomičnim gubitkom vida. Sljepoća se definira kao gubitak vida od 95 % na boljem oku uz maksimalno moguću korekciju. Kongenitalni gubitak vida u adolescenata povezan je s visokim razinama anksioznosti, a prema nekim saznanjima i s depresivnosti (7). Gubitak vida je stresan događaj, budući da čovjek najveći dio informacija prikuplja vidom te je nerijetko prihvaćanje gubitka vida povezano s depresivnom reakcijom (8). Depresivni simptomi posebice su izraženi kod starijih osoba s gubitkom vida budući da starija životna dob nosi sa sobom veći rizik i sklonost depresiji i drugim mentalnim bolestima (9). Prema dosadašnjim saznanjima depresivni su simptomi jače izraženi u osoba koje imaju druge somatske bolesti, kojima nedostaje socijalna podrška ili, s druge strane, imaju po-

several studies have been published that show a positive influence of stress management strategies on the quality of life and mental health of deaf participants. However, strategies helping deaf people overcome stress and leading them to mental well-being are still underdeveloped (1).

When investigating the symptoms of psychiatric illnesses and strategies for facing daily life limitations in the population of deaf people, the fact that people with prelingual deafness are not able to speak or write, and therefore use sign language, presents a special problem. People with an acquired hearing impairment, although also able to use sign language, are usually able to read, which allows the use of standard written questionnaires in assessing their psychiatric symptoms. The use of questionnaires translated to sign language is successful in assessing psychiatric symptoms even in those patients. However, the use of questionnaires standardized for sign language remains questionable since written questionnaires also provide the possibility of adequately assessing the symptoms of depression, as well as other symptoms (6).

Similarities in depressive reactions, daily life limitations and the need for mental adaptation to the aforementioned limitations are also seen in people with complete or partial loss of vision. Blindness is defined as vision loss of over 95% on the healthier eye with the best possible correction. In adolescents, congenital vision loss is associated with high levels of anxiety and, according to some findings, depression (7). Loss of vision is a stressful event because a person acquires most of their sensory information through sight, which is why acceptance of vision loss is often related to a depressive reaction (8). Symptoms of depression are especially dominant among the elderly with vision loss since old age brings a higher risk from and a tendency toward developing depression and other mental illnesses (9). According to existing findings, symptoms of depression are more intense in people suffering from other somatic

teškoće u komunikaciji s vlastitom socijalnom okolinom (8). Značajnu ulogu u prilagodbi na gubitak vida u svim dobnim skupinama imaju rano prihvaćanje gubitka vida te zdravi psihološki mehanizmi prilagodbe na navedeni gubitak (10). Dosadašnja su istraživanja utvrdila značajnu prednost ispitanika sa zrelim mehanizmima obrane od stresa u prilagodbi na iznenađan ili postupan gubitak vida. Povoljan učinak na psihičko zdravlje takvih ispitanika proizlazi u potpunom prihvaćanju gubitka, kanaliziranju stresa zrelim mehanizmima obrana od stresa poput humora i sublimacije te izraženih pozitivnih očekivanja od vlastite budućnosti (5). S obzirom na dosadašnje spoznaje da pozitivna percepcija budućnosti i podrške od socijalne okoline može djelovati na psihičko zdravlje skupina gluhih i slijepih ljudi ostaje nužno utvrditi je li i u kojoj mjeri stav osobe o općoj pravdi u društvu povezan s boljim psihičkim zdravljem. Naime, prema teoriji generalnog vjerovanja u pravdu u svijetu („*Beliefs In A Just World*“ Theory), ljudi koji vjeruju da je njihova okolina pravedno mjesto vjeruju da se dobro dobrim vraća, odnosno da svaki čovjek dobije ono što zaslužuje. Vjerovanje u pravednost u svijetu zapravo je mehanizam suočavanja sa stresom budući da pomaže racionalizaciji stresnih događaja i nošenju sa stresom svakodnevnog života (11). Ljudi s izraženijim stavovima o pravdi u svijetu kognitivno ocjenjuju događaje manje stresnim te se osjećaju sigurnijima od neželjenih događaja. Prema nekim istraživanjima izraženiji stavovi o pravdi u svijetu povezani su s boljim autonomnim odgovorom kardiovaskularnog sustava, slabijim tjelesnim manifestacijama stresa i većom učinkovitošću pri izvođenju mentalnih i fizičkih zadataka (12). Izraženi stavovi o pravednom svijetu preveniraju i nastanak težih psihijatrijskih bolesti poput depresije i anksioznog poremećaja (13). Zanimljiva je i činjenica da mehanizmi suočavanja sa stresom, poput teorije o pravdi u svijetu, djeluju zaštitno i kod pacijenata s teš-

illnesses and those missing social support or, on the other hand, having difficulties with communication within their social circle (8). Early acceptance of vision loss and healthy psychological adaptation mechanisms are key in adapting to vision loss in all age groups (10). Research has shown that participants with mature coping mechanisms are at a significant advantage when dealing with adapting to a sudden or gradual loss of vision. In those participants, favourable impact on mental health stems from complete acceptance of vision loss, channelling stress through mature coping mechanisms such as humour and sublimation, as well as expressing positive expectations about their future (5). Considering the knowledge that positive perception of the future and support from one's social circle can have an effect on mental health of blind and deaf people, it remains to be seen whether or not, and to what extent, a person's views on justice in society in general is associated with a healthier mental state.

According to the “Beliefs in a Just World” theory, people who believe that their surroundings are a just place also believe that if you do good, good comes back to you and that every person gets what they deserve. Belief in a just world actually represents a coping mechanism since it helps rationalize stressful events and deal with stress in daily life (11). People with stronger beliefs in justice in the world cognitively perceive events as less stressful and feel safer from unwanted events. According to some studies, a stronger belief in a just world is linked to a better autonomous response of the cardiovascular system, less dominant somatic manifestations of stress and higher efficacy when performing mental and physical tasks (12). Stronger belief in a just world prevents the development of more severe psychiatric illnesses such as depression and anxiety disorders (13). Interestingly, coping mechanisms, such as the Just World Theory, have a protective effect on patients with severe mental illnesses and also decrease the intensity of paranoid thoughts in patients with schizophrenia

kim psihijatrijskim bolestima, odnosno smanjuju i razinu paranoidnih ideja u oboljelih od shizofrenije (14). Međutim, ostaje nejasno jesu li izraženi stavovi o pravednosti u svijetu djelotvoran čimbenik u smanjenju depresivnih simptoma i anksioznosti u populacijama gluhih i slijepih osoba kao specifičnim populacijama izoliranim od socijalnih kontakata i specifičnih podražaja vanjske okoline te ima li povezanosti s drugim obilježjima tih dviju skupina poput materijalnog stanja i dobi nastanka senzornog oštećenja.

CILJEVI ISTRAŽIVANJA

Osobe s oštećenjem sluha i vida posebno su ranjive populacije čija socijalna prilagodba, funkcioniranje u sklopu aktivnosti svakodnevnog života te mentalno zdravlje jako ovisi o podneblju u kojemu žive, tj. o osviještenosti društva o njihovim specifičnim potrebama i njihovum ispunjavanju. Pojavnost simptoma mentalnih bolesti u populacijama gluhih i slijepih osoba, kao i mehanizmi suočavanja sa stresom, do sada nisu istraživani u RH, stoga je osnovni cilj ove studije mjerenje tih simptoma s nekoliko specifičnih ciljeva:

1. Opis sociodemografskih obilježja uzorka slijepih, gluhih i ispitanika kontrolne skupine s prebivalištem u Osječko-baranjskoj županiji, njihovih mjesečnih primanja po ukućaninu.
2. Utvrđivanje razine depresivnih, anksioznih simptoma te izraženosti stavova o pravednosti u svijetu u populacijama slijepih i gluhih osoba.
3. Usporedba razine depresivnih, anksioznih simptoma te izraženosti stavova o pravednosti u svijetu populacija slijepih i gluhih osoba s kontrolnom skupinom slične dobi i spola.
4. Utvrđivanje povezanosti izraženih stavova o pravednom svijetu s mjesečnim prima-

(14). However, it remains to be seen whether or not strong views on a just world act efficiently in decreasing the symptoms of depression and anxiety among deaf and blind people, since these are specific populations isolated from social contact and specific stimuli from their surroundings. It is also unclear if there is a connection between such views and other characteristics of these two populations, such as financial status and the age of sensory impairment onset.

RESEARCH GOALS

Persons with hearing or vision impairment are an especially vulnerable population and their adaptation to society, functioning within the context of daily life activities and mental health are highly dependent on the area where they live – on whether the society around them is aware of their specific needs and of fulfilling them. The incidence of mental illnesses in the population of deaf and blind people, as well as their coping mechanisms, have not yet been studied in Croatia. Therefore, the main goal of this study is to examine the aforementioned through several specific objectives:

1. Analysis of the sociodemographic characteristics of the sample of blind and deaf participants and a control group with residence in the Osijek-Baranja county, and their monthly household per capita income;
2. Determining the level of symptoms of depression and anxiety as well as determining the belief in a just world in the groups of blind and deaf participants;
3. Comparison of the level of symptoms of depression and anxiety, as well as comparison of the levels of belief in a just world between the groups of blind and deaf participants and the control group involving participants of the same age and sex;
4. Determining the connection between the expressed views about a just world with

njima po ukućanima slijepih i gluhih ispitanika.

5. Utvrđivanje povezanosti izraženih stavova o pravednom svijetu i dobi gubitka vida u slijepih ispitanika.
6. Utvrđivanje povezanosti izraženih stavova o pravednom svijetu i razina anksioznih i depresivnih simptoma u usporednim skupinama.

METODE I ISPITANICI

Istraživanje je provedeno kao presječna studija. Sudionici su istraživanja gluhe i slijepe osobe, članovi Udruge gluhih i nagluhih Osječko-baranjske županije te članovi Udruge slijepih Osječko-baranjske županije. Kontrolna skupina oblikovana je od osoba bez postojećeg vidnog ili slušnog oštećenja. U istraživanju je sudjelovalo 49 slijepih, 46 gluhih i 38 ispitanika iz kontrolne skupine. Sudionici su istraživanja gluhe osobe obaju spolova s oštećenjem sluha na jednom uhu u razini višoj od 91 decibela, koje je nastalo rođenjem ili je stečeno, a prisutno je u trajanju od najmanje 5 godina. Najznačajniji kriteriji za uključivanje u istraživanje jest duljina trajanja oštećenja sluha kako bi se sa što većom sigurnošću ispitali simptomi psihijatrijskih bolesti u osoba koje su ovim oštećenjem pogođene dulje vrijeme jer su takvi simptomi jako izraženi gubitkom sluha koji nastupa akutno. Slijepe su osobe one koje imaju 95 % oštećenja vida na boljem oku uz najbolju moguću korekciju, koje su slijepe od rođenja ili je gubitak vida nastao tijekom života, a traje dulje od pet godina. Iznenadan nastup gubitka vida također može stvoriti akutne psihološke posljedice te je u svrhu istraživanja odabran uzorak kod kojeg je mogućnost akutnih psihijatrijskih zbivanja isključena. Kontrolna skupina oblikovana je od osoba obaju spolova, sličnog raspona godina, bez prisutnog oštećenja sluha

monthly per capita household income within the groups of blind and deaf participants.

5. Determining the connection between the expressed views about a just world and the age of vision impairment onset in blind participants;
6. Determining the connection between the expressed views about a just world and the levels of symptoms of depression and anxiety within the groups.

PARTICIPANTS AND METHODS

This research was designed as a cross-sectional study. The participants in the study were deaf and blind people, members of the Association of Deaf and Hearing-impaired Persons of the Osijek-Baranja County and the Association of Blind Persons of the Osijek-Baranja County. The control group consisted of people without an existing impairment of sight or hearing. 49 blind and 46 deaf people were included in the study, while the control group consisted of 38 participants. The participants in the study were deaf people of both sexes, with hearing impairment in one ear greater than 91 decibels, either congenital or acquired, lasting for at least five years. The most significant criteria for inclusion in the study was the duration of hearing impairment, so that symptoms of mental illnesses could be examined with a high degree of certainty in participants who have had hearing impairment for a longer period of time, since such symptoms are very prominent when hearing impairment occurs acutely. Blindness is defined as a 95% impairment of vision on the healthier eye with the best possible correction, congenital or acquired, lasting longer than five years. Sudden vision loss can also cause acute psychological damage which is why, for the purposes of this study, participants with a confirmed absence of acute psychiatric symptoms were used to create the research group. The control group contained participants of both sexes, in a similar age range, without any

i vida te uz odsutnost drugih psihijatrijskih bolesti ili ozbiljnije somatske bolesti, a izabrana je nasumičnim telefonskim pozivima uz uvjet da udovoljavaju navedenim kriterijima i pristaju na sudjelovanje u istraživanju. U oblikovanju uzorka kontrolne skupine posebno je značajno podudaranje svih triju skupina u odnosu na spol i dob budući da male spolne i dobne razlike mogu dovesti do značajno drukčijih rezultata ljestvica vjerovanja u pravedan svijet i upitnika za procjenu depresivnosti i anksioznosti. Populacija starijih i mlađih ispitanika obično ima bolje rezultate na ljestvici vjerovanja u pravedan svijet u odnosu na osobe srednje dobi, dok je kod ženskog spola taj rezultat na spomenutoj ljestvici niži. Rezultati upitnika za procjenu anksioznosti i depresije također su viši kod ženskoga spola i u starijih bolesnika. Zbog malog broja slijepih i gluhih ispitanika u Osječko-baranjskoj županiji u istraživanje su uključeni svi koji ispunjavaju navedene uvjete o razini i trajanju oštećenja, a daljnje postupke nasumičnog izbora između tih ispitanika nismo bili u mogućnosti provesti. Istraživanje je provedeno dva mjeseca, od veljače do travnja 2015. godine.

Pomoću sociodemografskog upitnika prikupljeni su podaci o spolu, razini obrazovanja, bračnom statusu i razdoblju gubitka osjeta u gluhih i slijepih osoba te o spolu, razini obrazovanja i bračnome statusu kontrolne skupine ispitanika. Prikupljeni su i podaci o dobi nastanka senzornog oštećenja, mjesečnim primanjima po ukućaninu obitelji te rezultati upitnika za procjenu anksioznosti, depresivnosti i generalnih uvjerenja o pravdi u svijetu. Za određivanje razina simptoma depresije i anksioznosti korištene su samoocjenjske ljestvice prevedene na hrvatski jezik „Beckov upitnik za procjenu depresije i anksioznosti“ dobre pouzdanosti i valjanosti od kojih se svaka sastoji od 21 pitanja s dva ili tri ponuđena odgovora (15). Korište-

hearing or vision impairment and without any psychiatric illness or severe somatic disease. The participants for the control group were selected randomly through telephone calls, the only conditions being meeting the inclusion criteria and accepting to participate in the study. When forming the control group, it was of specific importance to create samples in which participants' age and sex were as similar as possible to the other two groups, because even small differences in age and sex can lead to significantly different results on the just world belief scale and in the questionnaire for examining symptoms of depression and anxiety. Older and younger participants usually have better results on the just world belief scale in comparison with participants in the middle age group, while female participants tend to score lower on the aforementioned scale. Female participants and older participants also tend to score higher on the questionnaire for examining symptoms of depression and anxiety. Since there is only a small number of deaf and blind persons in the Osijek-Baranja county, everyone meeting the inclusion criteria in terms of intensity and duration of sensory impairment was included in the study, which is also why further steps of random selection among those included were not possible. The study was conducted over the course of two months, from February to April 2015.

A sociodemographic questionnaire was used to acquire data on sex, level of education, marital status and the duration of sensory impairment in the groups of blind and deaf participants, as well as the data on sex, level of education and marital status in the control group. Data was also acquired on the age of sensory impairment onset, monthly per capita household income, as well as the results of the questionnaire for examining symptoms of depression and anxiety and general just world beliefs. To determine the symptoms of depression and anxiety, the Beck Depression Inventory and Beck Anxiety Inventory, reliable self-scoring scale questionnaires, were translated into Croatian and given to par-

na je inačica „Beckova upitnika za procjena depresivnosti I“ (16). Za određivanje razine stavova o pravdi u svijetu korišten je upitnik „Općih stavova o pravdi u svijetu“ (Dalbert, Montada, Schmidt), koji se sastoji od šest ponuđenih tvrdnji koje se odnose na osobna uvjerenja ispitanika (17). Skupina gluhih ispitanika koji se koriste znakovnim jezikom intervjuirana je uz pomoć posebno obučenog prevoditelja hrvatskoga znakovnog jezika, angažiranoga zbog poteškoća u razumijevanju složenijih izraza u upitnicima te gramatičkih razlika hrvatskoga znakovnog jezika i književnoga hrvatskog jezika koje su dovodile do značajnih razlika u razumijevanju pitanja. Skupina slijepih ispitanika također je ispitana u suradnji s volonterima Udruge slijepih osoba Osječko-baranjske županije te su njima tvrdnje samoocjenskih upitnika pročitane. U oba slučaja pomagači u intervjuiranju ispitanika bile su osobe od njihovog povjerenja te je osigurana privatnost njihovih iskaza.

Kategorijski podatci predstavljani su apsolutnim i relativnim frekvencijama. Numerički podatci u slučaju raspodjela koje slijede normalnu distribuciju opisani su aritmetičkom sredinom i standardnom devijacijom, a u ostalim slučajevima medijanom i granicama interkvartilnog raspona. Normalnost raspodjele numeričkih varijabli testirana je Kolmogorov-Smirnovljevim testom. Razlike normalno raspodijeljenih numeričkih varijabli između dviju nezavisnih skupina testirane su Studentovim t-testom, a u slučaju odstupanja od normalnosti Mann-Whitneyevim U-testom. Povezanost normalno raspodijeljenih varijabli ocijenjena je Pearsonovim koeficijentom korelacije r , a u slučaju odstupanja od normalne raspodjele Spearmanovim koeficijentom korelacije ρ (ro). Sve P vrijednosti dvostrane su. Razina značajnosti postavljena je na $\alpha = 0,05$. Za statističku analizu korišten je paket SPSS for Windows 8 (inačica 20, SPSS inc., Chicago, IL, USA).

participants, each consisting of 21 questions with two or three answer choices (15). We used “Beck Depression Inventory I” (16). To determine the views on world justice, the questionnaire “General Belief in a Just World Scale” by Dalbert, Montada and Schmidt was used, consisting of six choice statements about the participant’s personal beliefs (17). The group of deaf participants using sign language was interviewed by a specially trained translator of the Croatian sign language, who was brought on due to difficulties in understanding more complex terminology in the questionnaires and also because of grammar differences between the Croatian sign language and the Croatian literary language, which led to significant differences in understanding the questions. The group of blind participants took part in the study with the help of volunteers from the Association of Blind Persons of the Osijek-Baranja County and the questionnaire items were read to them. In both cases, people assisting in interviewing the participants were trustworthy individuals and the participants’ privacy regarding the answers they provided was ensured.

Categorical data were descriptively described as absolute and relative frequencies. Numerical data were described as mean and standard deviations in cases of normal data distribution, while in cases showing dispersed data distribution, data were described as medians and interquartile ranges. Numerical data distribution normality was tested using the Kolmogorov-Smirnov test. Tests used for differences between numerical variables were the student t-test, for normal distribution, and Mann-Whitney U-test if data distribution was dispersed. The correlation between normally distributed variables was determined using the Pearson correlation coefficient r , while the Spearman correlation coefficient ρ (rho) was used in cases of dispersed data distribution. All P values were two-sided. Statistical significance was at $\alpha = 0.05$. SPSS for Windows 8 (version 20, SPSS Inc., Chicago, IL, USA) was used for statistical data analysis.

REZULTATI

Istraživanjem je obuhvaćeno 133 ispitanika, od kojih je 49 slijepih, 46 gluhih i 38 ispitanika kontrolne skupine. Srednja dob slijepih ispitanika bila je 45 godina s interkvantilnim raspršenjem od 29 do 70 godina od čega je 23 (46,93 %) muškog, a 26 ispitanika (53,07 %) ženskog spola. Srednja je dob gluhih ispitanika 43 godine s interkvantilnim raspršenjem od 31 do 72 godine od čega je 23 ispitanika (50 %) muškog, a 23 ispitanika (50 %) ženskog spola. Ispitanici kontrolne skupine srednje su dobi od 46 godina s interkvantilnim raspršenjem od 30 do 70 godina, 19 (50 %) su žene, dok je 19 ispitanika (50 %) muškog spola (tablica 1).

Najviše ispitanika živi u bračnoj zajednici, 76 (57,1 %), od kojih značajnije ispitanici kontrolne skupine (Fisherov egzaktni test, $p = 0,005$).

Prema mjesečnim primanjima po ukućaninu tri skupine ispitanika se međusobno razlikuju ($H=54,071$, $p < 0,001$, Kruskal Wallisov H-test), odnosno slijepi ispitanici ($p < 0,001$) i ispitanici kontrolne skupine ($p < 0,001$) imaju značajno viša primanja u odnosu na gluhe ispitanike, dok između slijepih ispitanika i kontrolne skupine nema značajne razlike ($p=0,980$) (tablica 2).

RESULTS

133 participants were included in the study. 49 of them were blind, 46 were deaf, while 38 formed the control group. The median age of blind participants was 45, with the interquartile range being between 29 and 70 years of age. 23 (46.93 %) of them were men and 26 (53.07 %) were women. The median age of deaf participants was 43, with the interquartile range being 31 to 72 years of age. 23 (50 %) were men and 23 (50 %) were women. The median age of the control group participants was 46, with the interquartile range being 30 to 70 years of age. 19 (50 %) participants in the control group were women and 19 (50 %) were men (Table 1).

Most participants were married, 76 (57.1 %) of them, more significantly so in the control group (Fisher's exact test, $p = 0.005$).

Based on monthly per capita household income, there were differences between the three groups of participants ($H = 54.071$, $p < 0.001$, Kruskal-Wallis H test). Blind participants ($p < 0.001$) and those in the control group ($p < 0.001$) had a significantly higher income than deaf participants. On the other hand, there were no significant differences between blind participants and the control group ($p = 0.980$) (Table 2). The sever-

TABLICA 1. Sociodemografske karakteristike gluhih, slijepih i ispitanika kontrolne skupine
TABLE 1. Sociodemographic characteristics of blind and deaf participants and the control group

	Gluhi ispitanici / deaf participants (n, %)	Slijepi ispitanici / blind participants (n, %)	Kontrolna skupina / control group (n, %)	Ukupno / total (n, %)
Muškarci / men	24 (52,2)	22 (44,9)	15 (39,5)	61 (45,86)
Žene / women	22 (47,8)	27 (55,1)	23 (60,5)	72 (54,1)
Ukupno / total	46 (100)	49 (100)	38 (100)	133 (100)
Oženjen/udana / married	22 (47,8)	24 (49)	30 (78,9)	76(57,1)
Slobodan/udovac / widower	24 (52,2)	25 (51)	8 (21,1)	57(42,9)
Ukupno / total	46 (100)	49 (100)	38 (100)	133 (100)
Osnovno obrazovanje / elementary school	7 (15,2)	15 (30,6)	1 (2,6)	23 (17,3)
Srednja škola / high school	37 (80,4)	25 (51,0)	25 (65,8)	87 (65,4)
Fakultet / college	2 (4,3)	9 (18,4)	12 (31,6)	23 (17,3)
Ukupno / total	46 (100)	49 (100)	38 (100)	133(100)

broj ispitanika, postotak / number of participants/percentage

TABLICA 2. Mjesečna primanja po skupini ispitanika
TABLE 2. Monthly per capita household income

Skupine ispitanika / groups of participant	Gluhi ispitanici / deaf participants	Slijepi ispitanici / blind participants	Kontrolna skupina / control group	p*
Medijan / median (25 %-75 %)	1.100(837-1.418)	2.133(1.750-3.050)	2.500 (1.950-3.083)	<0.001

*Kruskal Wallisov H-test / *Kruskal Wallis H test

Razine simptoma depresivnosti, anksioznosti i stavova o pravdi u svijetu izmjerene su u skupinama gluhih, slijepih i ispitanika kontrolne skupine. Navedeni rezultati uspoređeni su između skupina.

Gluhi, slijepi i ispitanici iz kontrolne skupine međusobno se razlikuju prema rezultatima koje postižu na Beckovoj ljestvici depresivnosti ($H=17,142$, $p<0,001$, Kruskal Wallisov H-test) pa gluhi ispitanici postižu više razine depresivnosti u odnosu slijepe ispitanike ($p=0,041$) te još izraženije u odnosu na kontrolnu skupinu ($p<0,001$), dok nema statistički značajne razlike između slijepih ispitanika i kontrolne skupine (tablica 3).

Depresivni simptomi gluhih ispitanika povezani su s njihovim nižim mjesečnim primanjima (Pearsonov koeficijent korelacije $R = 0,392$, $p = 0,07$).

Sve tri skupine ispitanika se međusobno značajno razlikuju s obzirom na rezultate koje postižu na Beckovoj ljestvici anksioznosti ($H=24,321$, $p<0,001$, Kruskal Wallis H test) pa su tako gluhi ispitanici postigli najviše razine anksioznosti koje su značajno više u odnosu na skupinu slijepih ispitanika ($p=0,18$), još izraže-

ity of symptoms of depression and anxiety, as well as the levels of expressed views about a just world were measured in the group of blind participants, deaf participants and the participants in the control group. Analysis of the collected data and comparison between the groups was performed.

Deaf participants, blind participants and participants in the control group had different scores on the Beck Anxiety Inventory ($H = 17.142$, $p < 0.001$, Kruskal-Wallis H test). Deaf participants had higher levels of depression in comparison with blind participants ($p = 0.041$), and even more so in comparison with the participants in the control group ($p < 0.001$). On the other hand, there were no statistically significant differences between blind participants and the control group (Table 3).

Symptoms of depression in deaf participants showed a correlation with their lower monthly income (Pearson correlation coefficient $R = 0.392$, $p = 0.07$).

All three groups of participants had significantly different scores on the Beck Anxiety Inventory ($H = 24.321$, $p < 0.001$, Kruskal-Wallis H test). Deaf participants had the highest levels of anxiety, which were significantly higher in com-

TABLICA 3. Srednje vrijednosti Beckove ljestvice depresivnosti između skupina
TABLE 3. Beck Depression Inventory score among groups of participants

Beckova ljestvica depresivnosti / Beck Depression Score	Broj ispitanika / number of participants	Medijan / median (25%-75%)	p*	p* (između skupina) / (between groups)
Slijepi ispitanici / blind participants	49	8 (4-17)	<0,001	0,152
Kontrolna skupina / control group	38	3,5 (1-9)		
Kontrolna skupina / control group	38	3,5 (1-9)	<0,001	<0,001
Gluhi ispitanici / deaf participants	46	10 (6-17)		
Gluhi ispitanici / deaf participants	46	10 (6-17)	0,041	0,041
Slijepi ispitanici / blind participants	49	8 (4-17)		

*Kruskal Wallisov H-test / *Kruskal Wallis H test

nije u odnosu na kontrolnu skupinu ($p < 0,001$), a slijepi ispitanici dostižu značajno više razine anksioznosti u odnosu na kontrolnu skupinu ($p = 0,035$) (tablica 4).

Skupine ispitanika se međusobno razlikuju prema izraženosti generalnih stavova o pravdi u svijetu ($H = 18,796$, $p < 0,001$, Kruskal Wallisov H-test) te prema rezultatima slijepi ispitanici pokazuju izraženije stavove o pravdi u svijetu u odnosu na gluhe ispitanike ($p < 0,001$) i ispitanike kontrolne skupine ($p < 0,001$), dok između gluhih ispitanika i kontrolne skupine nema značajnih razlika ($p = 0,852$) (tablica 5).

Generalni stavovi o pravdi u svijetu gluhih ispitanika manje su izraženi što su mjesečna primanja po ispitaniku niža (Spearmanov koeficijent korelacije $\rho = -0,588$, $p = 0,01$), dok su generalni stavovi o pravednosti u svijetu slijepih ispitanika također manje izraženi što su mjesečna primanja slijepih ispitanika niža (Pearsonov koeficijent korelacije $R = -0,429$, $p = 0,01$). Značajno izraženije generalne stavove o pravdi imaju ispitanici koji su izgubili vid nakon treće godine života (Mann-Whitneyev U-test, $p = 0,029$) (tablica 6).

comparison with blind participants ($p = 0.18$) and even more so in comparison with the control group ($p < 0.001$). Blind participants had a significantly higher level of anxiety in comparison with the control group ($p = 0.035$) (Table 4).

There were differences between the groups of participants regarding expressed beliefs in a just world ($H = 18.796$, $p < 0.001$, Kruskal-Wallis H test). According to the results, blind participants had stronger beliefs in a just world in comparison with deaf participants ($p < 0.001$) and participants in the control group ($p < 0.001$). On the other hand, there were no significant differences between deaf participants and the control group ($p = 0.852$) (Table 5).

General belief in a just world was less strong the lower the monthly income per participant (Spearman correlation coefficient $\rho = -0.588$, $p = 0.01$), while general belief in a just world among the blind participants was also less strong the lower their monthly income (Pearson correlation coefficient $R = -0.429$, $p = 0.01$). Participants who lost their vision after the age of three had significantly stronger belief in a just world (Mann-Whitney U-test, $p = 0.029$) (Table 6).

TABLICA 4. Srednje vrijednosti anksioznosti prema Beckovoj ljestvici između skupina
TABLE 4. Beck Anxiety Inventory score among groups of participants

Beckova ljestvica anksioznosti / Beck Anxiety Score	Broj ispitanika / number of participants	Medijan / median (25 % - 75 %)	p*	p* (između skupina) / (between groups)
Slijepi ispitanici / blind participants	49	11 (3-29)	<0,001	0,035
Kontrolna skupina / control group	38	4 (1-12)		
Kontrolna skupina / control group	38	4 (1-12)	<0,001	<0,001
Gluhi ispitanici / deaf participants	46	19 (13-26)		
Gluhi ispitanici / deaf participants	46	19 (13-26)	0,018	0,018
Slijepi ispitanici / blind participants	49	11 (3-29)		

*Kruskal Wallisov H-test / *Kruskal Wallis H test

TABLICA 5. Razlike u generalnim stavovima o pravdi u svijetu između skupina
TABLE 5. General beliefs in a just world among groups

Generalni stavovi o pravdi u svijetu / general beliefs in a just world	Broj ispitanika / number of participants	Medijan / median (25 %-75 %)	p*	p* (između skupina) / (between groups)
Slijepi ispitanici / blind participants	49	27 (20-29)	<0,001	<0,001
Kontrolna skupina / control group	38	22 (18,75-25,00)		
Kontrolna skupina / control group	38	22 (18,75-25,00)	0,852	0,852
Gluhi ispitanici / deaf participants	46	22 (20-14)		
Gluhi ispitanici / deaf participants	46	22 (20-24)	<0,001	<0,001
Slijepi ispitanici / blind participants	49	27 (20-29)		

*Kruskal Wallisov H-test / *Kruskal Wallis H test

TABLICA 6. Generalni stavovi o pravdi u svijetu s obzirom na dob nastanka oštećenja vida**TABLE 6.** General beliefs in a just world depending on age of vision impairment

Dob gubitka vida / age of vision impairment	Medijan / median (25 % – 75 %)	P*
Rođenjem ili prije 3. godine života / by birth of before the age of three (N = 26)	26,50 (23,75 – 29,00)	
Nakon 3. godine / after the age of three (N = 13)	29 (27 – 32)	0,029

*Mann-Whitneyev U-test / *Mann-Whitney U test

Što su generalni stavovi o pravdi u svijetu izraženiji, to je razina anksioznosti u skupini gluhih niža (Spearmanov koeficijent korelacije $\rho = -0,353$, $p = 0,015$), dok u drugim skupinama nema statistički značajne povezanosti izraženosti generalnih stavova o pravdi u svijetu sa simptomima anksioznosti i depresivnosti.

RASPRAVA

U ovom istraživanju utvrđivala su se sociodemografska obilježja i uspoređivale razine anksioznosti, depresivnosti i generalnih vjerovanja u pravedan svijet u populacijama slijepih, gluhih i ispitanika bez senzornih oštećenja s mjestom boravka u Osječko-baranjskoj županiji.

Oba promatrana uzorka ispitanika značajno su rjeđe u bračnoj zajednici u odnosu na ispitanike kontrolne skupine bez senzornog oštećenja ($p = 0,005$). Oštećenje vida i sluha i do sada su u velikim populacijskim studijama označeni kao faktori koji otežavaju sklapanje bračne zajednice i češće dovode do samačkog života (18). Međutim, poznata je i činjenica da je samački način života rizični čimbenik za nastanak senzornih oštećenja, odnosno češći i brži gubitak vida i sluha u uvjetima samostalnog života (18,19). Senzorno oštećenje u navedene dvije populacije stvara začarani krug, budući da znatno smanjuje izgled za osnivanje bračne zajednice, a kasniji izostanak supružnika dovodi do nemogućnosti pravovremenog prepoznavanja daljeg propadanja vida i sluha. Izostanak partnera je osim toga jedan od najvažnijih čimbenika za kasniji razvoj depresivnog poremećaja (20).

Among the deaf participants, the stronger belief in a just world, the lower their level of anxiety was (Spearman correlation coefficient $\rho = -0.353$, $p = 0.015$). Among the participants in the other two groups, there were no statistically significant correlations between the expressed beliefs in a just world and symptoms of anxiety and depression.

DISCUSSION

This study analysed the sociodemographic characteristics and compared the levels of anxiety, depression and general beliefs in a just world in a population of blind participants, deaf participants and participants with no sensory impairment residing in the Osijek-Baranja county.

In both researched groups, there was a significantly smaller number of married participants in comparison with those in the control group with no sensory impairment ($p = 0.005$). Large population studies have shown vision and hearing impairment to be the factors that make getting married more difficult and more often lead to a solitary life (18). However, it is also known that solitary life represents a risk factor for the development of sensory impairment, i.e. it can increase the prevalence and progression rate of vision and hearing impairment when a person leads a solitary life (18,19). In these two populations, sensory impairment leads to a vicious circle. Sensory impairment significantly reduces the chances of getting married and subsequently the absence of a spouse prevents further progression of vision and hearing loss from being recognised in a timely manner. Moreover, the absence of a partner is one of

Obitelji gluhih ispitanika u usporedbi s obiteljima slijepih ispitanika i ispitanicima kontrolne skupine imaju značajno niže prihode po članu obitelji ($p < 0,001$) što je direktan pokazatelj lošijeg materijalnog statusa gluhih osoba u ispitivanim uzorcima. U dosadašnjim istraživanjima slijepih i gluhih osoba obje skupine su češće lošijeg socioekonomskog položaja, budući da su češće nezaposleni, nisu u bračnoj zajednici i postižu niže razine obrazovanja (21,22). Rezultati ovog istraživanja svrstavaju gluhe ispitanike u posebnu, nižu socijalnu kategoriju što se može objasniti izostankom adekvatne financijske skrbi, koju je društvo u Republici Hrvatskoj ipak osiguralo slijepim osobama (23).

Slijepi ispitanici postižu značajno više razine anksioznosti ($p = 0,035$), no ne i depresivnosti ($p = 0,152$) u odnosu na kontrolnu skupinu ispitanika. Visoke razine anksioznosti, no ne i depresivnosti na samoocjenskim upitnicima uglavnom su u skladu s rezultatima drugih studija te oslikavaju stanje psihičkog zdravlja uzorka slijepih ispitanika pri čemu je korištena do sada često rabljena metodologija presječnog istraživanja (8,16).

Razine generalnih stavova o pravdi u svijetu značajno su više u slijepih ispitanika u odnosu na gluhe ispitanike ($p < 0,001$) i kontrolnu skupinu ispitanika ($p < 0,001$). Visoke razine anksioznosti u skupini slijepih ispitanika su iznenađenje s obzirom na izražene stavove o pravdi u svijetu, jer visoka razina anksioznosti nije očekivana kada su zaštitni mehanizmi ličnosti izraženi (24). Skupina slijepih ispitanika se time ističe u tri ispitivane skupine jer ima značajno izraženiji mehanizam nošenja sa stresom ili izražene stavove o očekivanoj pravednosti što možda proizlazi i iz smanjenog uvida u realitet posljedično senzornom oštećenju vida (25). Jednostavnije, moglo bi se reći da su stavovi o pravednosti u svijetu, koji je objektivno nepravedan visoko izraženi zbog manje socijalnih interakcija pa time slijepi ispitanici postižu slabiji uvid u stanje

the most important factors in the development of depression later in life (20).

The families of deaf participants have a significantly lower per capita household income ($p < 0.001$) than those of the blind and control group participants, which is a direct indicator of the poorer financial status of deaf participants in the sample. Previous research has shown that blind and deaf individuals find themselves in the low socioeconomic class more often because they are more often unemployed, unmarried and have a lower level of education (21,22). According to the results of this study, deaf participants fall under a special, lower social category, which can be explained by a lack of adequate financial support, which is, however, provided for blind persons by the state (23).

When compared to participants in the control group, blind participants had significantly higher levels of anxiety ($p = 0.035$), but not depression ($p = 0.152$). Higher levels of anxiety, but not depression, seen in the self-grading questionnaires reflect the results of other studies and show the mental health state of blind participants, whereby the often-used cross-sectional study design was also used here (8,16).

General beliefs in a just world were significantly stronger in blind participants when compared to deaf participants ($p < 0.001$) and participants in the control group ($p < 0.001$). High levels of anxiety in the group of blind participants came as a surprise considering their expressed beliefs in a just world, because a high level of anxiety is usually not expected in persons with strong defence mechanisms (24). This makes the group of blind participants special among the three analysed groups because blind participants have significantly stronger stress coping strategies or strong beliefs in a just world, which may also result from a lack of insight into the reality due to visual impairment (25). In simpler terms, it can be said that beliefs in a just world, which is objectively unjust, are strong due to a lack of social interactions, which is why blind participants

svakodnevnog života (26). Ostaje nužno dalje proučavanje strategija prevladavanja stresa u slijepih ispitanika jer takve spoznaje mogu služiti u psihoterapijskim procesima pri psihološkoj adaptaciji na gubitak vida i mogu značajno pridonijeti očuvanju psihičkog zdravlja slijepih ispitanika (25).

Vrlo zanimljivu spoznaju predstavlja rezultat značajno izraženijih generalnih stavova o pravdi u svijetu u slijepih ispitanika koji su vid izgubili nakon treće godine u odnosu na ispitanike koji su ga izgubili prije tog razdoblja ($p = 0,029$). Pretpostavljamo da je rani gubitak vida, poput drugih traumatskih događaja posebno snažna trauma ako se dogodi u razdoblju intenzivnog razvoja djetetove ličnosti te osim fizičkog oštećenja oštećuje i prilagodbene kapacitete ličnosti što vjerovanje u pravdu u svijetu zapravo i jest, no i o toj temi do sada nema objavljenih istraživanja (27,28). Potrebno je provesti dodatna istraživanja na većem broju ispitanika, kako bi se utvrdilo je li to uistinu tako.

Razine depresivnosti i anksioznosti koje postižu gluhi ispitanici značajno su više u odnosu na ispitanike kontrolne skupine ($p < 0,001$), ali i slijepe ispitanike ($p=0,018$, $p=0,041$). Značajno više razine depresivnosti i anksioznost gluhih osoba u odnosu na kontrolnu skupinu ispitanika s prebivalištem u Osječko-baranjskoj županiji konzistentne su s dosadašnjim istraživanjima i potvrđuju poguban utjecaj prirođenog ili stečenog gubitka sluha na mentalno zdravlje gluhih ispitanika (1,2). Rizici za mentalno zdravlje gluhih osoba su ponajprije smanjena mogućnost interakcija sa članovima obitelji i prijateljima, sudjelovanja u obrazovnom sustavu i zapošljavanja (2). Jasno je da gluhi ispitanici postižu značajno niže razine mentalnog zdravlja u usporedbi sa slijepim ispitanicima, što se djelomično može objasniti i većim učinkom gubitka socijalnih interakcija u odnosu na slijepe osobe i to zbog jezične barijere jer jako mali broj ljudi, pa i članova

lack insight into the state of everyday life (26). It is important to study these strategies used to overcome stress in the blind population further because they can be used in psychotherapeutic processes for adapting to loss of vision and also significantly contribute to the preservation of blind participants' psychological health (25).

A very interesting piece of information acquired from the data analysis was that blind participants who lost their sight after the age of three had significantly stronger general beliefs in a just world than those who lost their sight earlier in life ($p = 0.029$). Our assumption is that early loss of vision, just like every other traumatic event, represents an especially severe trauma if it occurs during the period of a child's intensive personality development, so it inflicts not only physical damage, but also damage to adaptive abilities – and belief in a just world is exactly that. However, there is no published research on this topic (27,28). It is necessary to conduct further research on a larger number of participants to determine whether this is true or not.

Levels of depression and anxiety among the deaf participants were significantly higher in comparison with participants in the control group ($p < 0.001$) and blind participants ($p = 0.018$, $p = 0.041$). Significantly higher levels of depression and anxiety among deaf participants compared to the control group participants residing in the Osijek-Baranja county are consistent with previous research and this data confirms the unfavourable effect of congenital or acquired hearing loss on the deaf participants' mental health (1,2). Reduced ability to interact with family and friends, participation in the education system and employment represent the primary mental health risks among deaf persons (2). It is clear that deaf participants have significantly lower levels of mental health in comparison with blind participants, which can be explained in part by the fact that the absence of social interactions has a more powerful effect on deaf than on blind persons. This is a consequence of a language barrier

obitelji gluhih ispitanika, koristi znakovni jezik. U dosadašnjim studijama je upravo to glavni faktor koji dovodi do izolacije gluhih i gluhonijemih osoba i pojave simptoma depresije i anksioznosti (1). Iz navedenih razloga na ispitivanom uzorku gluhih osoba anketiranje je provedeno uz asistenciju prevoditelja znakovnog jezika što se u dosadašnjim studijama pokazalo opravdanim i korisnim za razumijevanje sadržaja upitnika za procjenu simptoma psihijatrijskih bolesti (29). Nije dokazana razlika u stavovima o pravdi u svijetu kod gluhih ispitanika u odnosu na kontrolnu skupinu ($p = 0,852$) te početna pretpostavka o niskim kapacitetima suočavanja sa stresom u obliku generalnih vjerovanja u pravdu u svijetu nije dokazana što vodi zaključku da taj oblik kognitivnog prilagodbenog mehanizma na stres nije znatno narušen oštećenjem sluha ispitanika (30). Saznanje da gluhi i slijepi ispitanici pokazuju značajne razlike u izraženosti generalnih vjerovanja u pravdu u svijetu ($p < 0,001$) je novo saznanje koje do sada nije istraživano, a u okviru ispitivanog uzorka može biti objašnjeno samo razlikom u tipu senzornog oštećenja budući da su sve ostale karakteristike uzoraka međusobno slične. Iz navedenog se može zaključiti da gluhi i slijepi ispitanici koriste različite strategije suočavanja sa stresom s obzirom na to da su im i senzorna oštećenja drugačija te da se u sklopu ograničenja u aktivnostima svakodnevnog života na druge načine suočavaju sa stresom (15,28).

Nova spoznaja je i činjenica da su izraženiji stavovi o pravdi u svijetu predstavljaju zaštitni čimbenik za psihičko zdravlje gluhih osoba pa je tako razina anksioznosti, no ne i depresivnosti, u gluhih ispitanika niža što su stavovi o pravdi u svijetu izraženiji ($p = 0,015$) što je slično rezultatima istraživanja na osobama bez oštećenja sluha, a spoznaja može biti korisna u kreiranju psihoterapijske podrške gluhim pacijentima u prevladavanju anksiozne simptomatologije (2).

that occurs due to the fact that very few people, including deaf persons' family members, use sign language. Previous studies have shown that this is the main factor that leads to the isolation of deaf and speech-impaired persons and the occurrence of the symptoms of depression and anxiety (1). Because of the aforementioned reasons, the examination of deaf participants was conducted with the assistance of a sign language interpreter. Previous studies have shown that this is a valid and useful approach to understanding the contents of the questionnaire for psychiatric disorder symptom assessment (29). There was no difference in beliefs in a just world between the group of deaf participants and the control group ($p = 0.852$), so the starting hypothesis on the inability to cope with stress in the context of general beliefs in a just world was not proven. This leads us to conclude that this type of cognitive stress coping mechanism is not significantly affected by the participants' hearing impairment (30). Discovery that deaf and blind persons are significantly different in terms of expressed beliefs in a just world ($p < 0.001$) represents a new piece of information that has not previously been studied. In terms of the analysed sample, this can be explained only by the difference in the type of sensory impairment, considering that all other characteristics of the sample are similar. Based on that, it can be concluded that blind and deaf participants use different stress coping strategies, considering that they have different types of sensory impairments and different ways of facing stress due to limitations in their everyday lives (15, 28).

The fact that stronger beliefs in a just world are a protective factor for mental health of deaf participants is also a new piece of information, with levels of symptoms of anxiety, but not depression, being lower when beliefs in a just world are stronger ($p = 0.015$), which is similar to the results of research on the participants with no hearing impairment. This information can be helpful in creating psychotherapeutic support for deaf patients in overcoming symptoms of anxiety (2).

Razine anksioznosti značajno su više u uzorku gluhih ispitanika u odnosu na uzorak slijepih ispitanika i kontrolnu skupinu te između uzorka slijepih ispitanika i kontrolne skupine.

Razine depresivnosti značajno su više samo u uzorku gluhih ispitanika u usporedbi s kontrolnom skupinom ispitanika.

Slijepi ispitanici postizu izraženije stavove o generalnoj pravdi u svijetu o odnosu na skupinu gluhih i kontrolnu skupinu ispitanika no zaštitni učinak izraženih stavova o pravdi u svijetu na smanjenje simptoma anksioznosti dokazan je samo u uzorku gluhih ispitanika.

Levels of anxiety are significantly higher among deaf participants in comparison with blind participants and the control group, as well as among blind participants in comparison with the control group.

Levels of depression are significantly higher only among deaf participants in comparison with the control group.

Blind participants have stronger beliefs in a just world in comparison with deaf participants and the control group, but the protective effect of expressed views about a just world on alleviating symptoms of anxiety was proven only in deaf participants.

LITERATURA / REFERENCES

1. Li C-M, Zhang X, Hoffman HJ, Cotch MF, Themann CL, Wilson MR. Hearing Impairment Associated With Depression in US Adults, National Health and Nutrition Examination Survey 2005-2010. *JAMA Otolaryngol Neck Surg* 2014; 140(4): 293-4.
2. Saha R, Sharma A, Srivastava MK. "Psychiatric assessment of deaf and mute patients – A case series." *Asian J Psychiatr* 2017; 25(1): 31-5.
3. Pourmohamadreza-Tajrishi M, Ashori M, Jalilabkenar SS. The effectiveness of emotional intelligence training on the mental health of male deaf students. *Iran J Public Health* 2013; 42(10): 1174-80.
4. Turner O, Windfuhr K, Kapur N. Suicide in deaf populations: a literature review. *Ann Gen Psychiatry* 2007; 6(1): 26-34.
5. Nyman SR, Dibb B, Victor CR, Gosney MA. Emotional well-being and adjustment to vision loss in later life: A meta-synthesis of qualitative studies. *Disabil Rehabil* 2012; 34(12): 971-81.
6. Zazove P, Meador HE, Aikens JE, Nease DE, Gorenflo DW. Assessment of depressive symptoms in deaf persons. *J Am Board Fam Med JABFM* 2006; 19(2): 141-7.
7. Bolat N, Do B, Yavuz M, Kayaalp L. Depression and anxiety levels and self-concept characteristics of adolescents with congenital complete visual impairment. *Turkish J Psychiatry* 2011; 22(2): 77-82.
8. Senra H, Barbosa F, Ferreira P, Vieira CR, Perrin PB, Rogers H *et al.* Psychologic adjustment to irreversible vision loss in adults: A systematic review. *Ophthalmology* 2015; 122(4): 851-61.
9. Papadopoulou K, Papakonstantinou D, Montgomery A, Solomou A. Social support and depression of adults with visual impairments. *Res Dev Disabil* 2014; 35(7): 1734-41.
10. Study AFF, Fitzgerald ROYG. Reactions to blindness : A Four-Year Follow-up Study. *Percept Mot Skills* 1987; 64(2): 363-78.
11. Wolfradt U, Dalbert C. Personality, values and belief in a just world. *Pers Individ Dif* 2003; 35(8): 1911-8.
12. Lipkus IM, Dalbert C, Siegler IC. The Importance of Distinguishing the Belief in a Just World for Self Versus for Others: Implications for Psychological Well-Being. *Personal Soc Psychol Bull* 1996; 22(7): 666-77.
13. Carifio J, Nasser R. Belief in a just world and depression in elderly nursing home residents. *Work* 2012; 43(3): 303-12.
14. Tsai S-Y, Cheng C-Y, Hsu W-M, Su T-PT, Liu J-H, Chou P. Association between visual impairment and depression in the elderly. *J Formos Med Assoc* 2003; 102(2): 86-90.
15. Wang Y, Gorenstein C. Psychometric properties of the Beck Depression Inventory-II : a comprehensive review. *Rev Bras Psiquiatr* 2013; 35(1): 416-31.
16. Bautovich A, Katz I, Loo CK, Harvey SB. Beck Depression Inventory as a screening tool for depression in chronic haemodialysis patients. *Australas Psychiatry* 2018; 26 (3): 281-4.
17. Lench HC, Chang ES. Belief in an Unjust World: When Beliefs in a Just World Fail. *J Pers Assess* 2007; 89(2): 126-35.
18. Guo C. Prevalence , Causes and Social Factors of Visual Impairment among Chinese Adults: Based on a National Survey. *Int J Environ Res Public Heal* 2017; 14(1034): 1-11.
19. Zheng Y, Lamoureux EL, Chiang PP, Rahman Anuar A, Wong TY. Marital status and its relationship with the risk and pattern of visual impairment in a multi-ethnic Asian population. *J Public Health (Oxf)* 2014; 36(1): 104-10.
20. Bulloch AGM, Williams JVA, Lavorato DH, Patten SB. The depression and marital status relationship is modified by both age and gender. *J Affect Disord* 2017; 223(6): 65-8.

21. He P, Luo Y, Hu X, Gong R, Wen X, Zheng X. Association of socioeconomic status with hearing loss in Chinese working-aged adults : A population-based study. *PLoS ONE* 2018; 13 (3): 1-12.
22. Araújo AKF, França ISX de, Coura AS, Santos SR dos, Ramos APA, Pagliuca LMF. Sociodemographic profile of blind people: associations with knowledge, attitude and practice about sexually transmitted infections. *Rev da Rede Enferm do Nord* 2015; 16(5): 738-45.
23. Nenadić K, Šubarić Ž DJ. Osobe sa oštećenjem vida- naši pacijenti. Zagreb: Hrvatski savez slijepih, Stomatološki fakultet Sveučilišta u Zagrebu; 2015. 40-54.
24. Tomaka J, Blascovich J. Effects of Justice Beliefs on Cognitive Appraisal of and Subjective, Physiological, and Behavioral Responses to Potential Stress. *J Pers Soc Psychol* 1994; 67(4): 732-40.
25. Sturrock BA, Clin D, Rees G, Lamoureux EL, Wong TY, Holloway E *et al.* Individuals' Perspectives on Coping with Vision Loss from Diabetic Retinopathy. *Optom Vis Sci* 2018; 95(4): 362-72.
26. Germany W, Dalbert C. Coping with an Unjust Fate: The Case of Structural Unemployment. *Soc Justice Res* 1997; 6(2): 175-89.
27. Pos K, Boyette L Lou, Meijer CJ, Koeter M, Haan L De. The effect of childhood trauma and Five-Factor Model personality traits on exposure to adult life events in patients with psychotic disorders. *Cogn Neuropsychiatry* 2016; 21 (6): 1-13.
28. McParland JL, Knussen C. Just world beliefs moderate the relationship of pain intensity and disability with psychological distress in chronic pain support group members. *Eur J Pain* 2010; 14(1): 71-6.
29. Werngren-Elgström M, Dehlin O, Iwarsson S. Aspects of quality of life in persons with pre-lingual deafness using sign language: Subjective wellbeing, ill-health symptoms, depression and insomnia. *Arch Gerontol Geriatr* 2003; 37(1): 13-24.
30. Stevelink SAM, Fear NT. Psychosocial impact of visual impairment and coping strategies in female ex-Service personnel. *J R Army Med Corps* 2016; 162 (2): 129-133.