The Effects of Mental Health First Aid Training on Positive Mental Health and Mental Health Literacy on Office Workers: A Randomized Controlled Trial

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ABSTRACT

Objective: Mental health problems are among the most common health problems today.

This study was a randomized controlled trial in order to determine the effect of nurse-led mental health first aid training (MHFA) on mental health and mental health literacy (MHL) of office workers in Turkey.

Methods: The study was performed with 88 employees in the intervention group and 90 employees in the control group, who were randomly allocated. The data were collected with positive mental health (PMH) scale and MHL scale via online forms. Intervention group received 8-hour MHFA course. The primary outcomes included autonomy, personal satisfaction, problem solving and self-actualization, self-control, prosocial attitude and interpersonal relationship skills of PMH sub-dimensions. The secondary outcome was mental health literacy. Post-test was administered one week following the completion of the MHFA training. Data were analyzed using chi-square, independent sample t test and repeated-measures ANOVA.

Results: Following the MHFA training, post-test scores of the PMH scale personal satisfaction, self-control, autonomy, problem solving and self-actualization, prosocial attitude and interpersonal relationship skills were found to increase in favor of the intervention group (p<.05). It was determined that MHL scores of the intervention group increased (p<.001).

Conclusion: Mental health first aid training was determined to be an effective program and can be used in workplaces.

Keyword: Mental health first aid, mental health literacy, positive mental health

1. INTRODUCTION

Mental disorder is a serious public health issue that is common enough to be diagnosed in 1 of 3 adults. However, many people with mental disorder remain undiagnosed and untreated (1). According to the data of the World Health Organization (2), 76-85 percent of people with mental illness do not receive treatment in low – and middle-income countries. By contrast, in high-income countries, 35-50 percent of these people do not receive treatment. Identifying individuals at an early stage of the disease or when they are at risk and referring them for appropriate intervention can reduce the burden of disease accordingly (1).

The World Health Organization (2), draws attention to the fact that the care and treatment of people with the disease is hindered due to reasons such as the perception of mental illnesses as a shameful situation and the anxiety of being exposed to discrimination and negligence. In days of yore,

employees might conceal their status of mental health problem (MHP) or were stigmatized by their managers and co-workers in the workplace. The increase in the rate of mental illness in the society over the years has made it imperative now to address the problem in the workplace. Although the main purpose of occupational health nurses is to protect the health and well-being of employees, results such as absenteeism due to mental illnesses, high costs of health care and disability affect services, decreased productivity and feeling of unsafe. Presenteeism – attending work even though the worker is sick – produces indirect costs. The case of an employee struggling with a mental health (MH) issue can effect other workers or team members at the same workplace. Occupational safety concerns and social interaction issues may arise, workload could increase for the other co-workers. To seek support is the most important step for employees to be able to cope with mental disorders as

these are generally treatable. A study found that 60% of adults with mental ill-health were not treated in the previous year as they were not able to afford it, had no time to allocate or their lack of knowledge about available support. Additionally, many people showed doubts about confidentiality and fear of getting fired. The occupational health nurse plays a key role in encouraging employees to seek help and signposting them the most feasible support tools and also ensuring strict confidentiality, helps employees to keep their work (3,4).

One way of increasing the number of people with mental illness to seek help is to educate the public on recognizing significant symptoms, strengthen first aid skills for people affected by MHP, and recommend that they seek professional help accordingly. Mental Health First Aid (MHFA) training was created in 2001 by Betty Kitchener, a nurse specializing in health education in Australia, and Anthony Jorm, professor of mental health literacy, in order to address this problem. The MHFA is designed for all levels of health literacy and emphasizes the use of appropriate terminology. The training is a program that teaches participants how to identify, understand and respond to the symptoms of mental illnesses and substance use disorders (5, 6). Mental Health First Aid Training is currently applied in 21 countries around the world (7, 8).

Many studies have demonstrated that MHFA is effective in eliminating the lack of understanding of MHP and effective treatments in the society, and reducing the effect of stigma that prevents people from getting help at an earlier stage, delays their recovery and significantly reduces their quality of life (6, 9-11). In addition, in the meta-analysis studies, it was found that the education program improved MH knowledge, reduced stigmatizing attitudes and increased the attitude to seek help (8, 10, 11).

No study could be found involving the application of MHFA in Turkey. A limited number of studies conducted have included psychological first aid (12, 13). Unlike MHFA, psychological first aid is a kind of early psychosocial intervention approach that is carried out during or after a disaster, accident, terrorist attack or any event that causes negative effects at the individual/social level (14). Mental Health First Aid, on the other hand, is not an early psychosocial intervention approach, but a program that aims to increase the help-seeking behavior of individuals.

This study was planned to determine the effect of MHFA training delivered by occupational health nurse on mental health and mental health literacy of office workers in Turkey. This particular study, in which MHFA training was implemented for the first time in Turkey, will provide an example of a program on MH improvement in the workplace.

As a result, the following hypotheses are proposed in this study:

H1: Positive mental health (PMH) scale score will be higher in the intervention group than in the control group one week after MHFA training.

H2: The knowledge, belief and resource factors score of the mental health literacy (MHL) scale for the employees in the intervention group will be higher than the control group one week after MHFA training.

H3: Employees in the intervention group will have a higher PMH scale post-test score compared to the pre-test.

H4: The post-test scores of the employees in the intervention group for the knowledge, belief and resource factors of the MHL scale will increase compared to the pre-test.

2. METHODS

2.1. Study design

This randomized controlled trial was conducted at a fast-moving consumer goods company with office employees. The primary outcomes of the study included autonomy, prosocial attitude and interpersonal relationship skills that PMH method sub-dimensions. The secondary outcome was MHL.

2.2. Ethical Approval

Ethical approval for this study was received by the Marmara University Health Sciences Faculty, Ethics Committee (Reference: 19.12.2019-230). Institutional consent was obtained in order to conduct this study in the workplace and to reach out to the employees. Participants signed a written informed consent including that their data could be used in research.

2.3. Settings and Participants

The MHFA training invitation and details were sent to the all employees at the company (N= 920) via e-mail. 178 of employees accepted to participate in the program. For the sample size; when power analysis was performed according to the pre-test scores the following were found: Alpha= 0.01, Beta=0.2, Group 1 PMH Scale score= 2.35±0.66, Group 2 PMH Scale score= 2.75, and when power was calculated as 0.80, the sample was determined to be at least 128 (Group 1=64 Group 2=64) according to the pre-test scores. We recruited all participants who consented to participate in the MHFA program and listed the participants. Then, we randomly divided into Group 1 (n=88) and Group 2 (n=90) in the statistical program with the help of a statistician as approximately 50% of the participants (Figure 1).

Concealment of participants and researchers was not possible due to the context of the intervention. However, since group data were coded as group 1 and group 2, masking was performed for statistical analysis.

Those who accepted to participate in the MHFA training were applied pre-test. The MHFA training was conducted one week later the pre-test. The post-test was administered one week following the completion of the training.
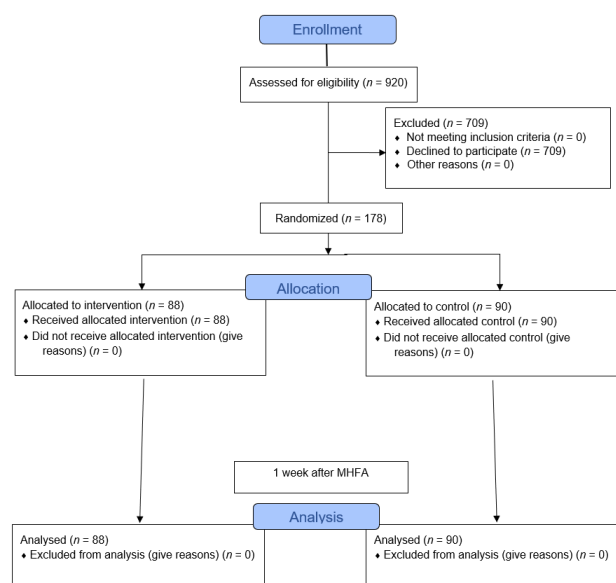
Figure 1. *Consort Diagram*

2.4. Assessment and scales

The data were collected with the Employee Assessment Survey, PMH Scale and MHL Scale via online self-report forms. We measured problem solving and self-actualization, autonomy, interpersonal relationship skills, self-control, prosocial attitude and personal satisfaction that are the primary outcomes of the study, with the PMH scale sub-dimension scores. The secondary outcome was assessed with MHL scale.

The Employee Assessment Survey includes four questions on the attendee's age, gender, presence of mental illness and having a relative with mental illness. These questions were excluded in the post intervention.

Positive Mental Health scale was developed to determine the conceptual model of PMH and to assess PMH by Lluch (15), and its Turkish adaptation was performed by Teke and Arabacı (16). The Cronbach's alpha coefficient of the PMH-Scale is 0.93, which consists of 39 items and 6 factors. In this study, it was found to be 0.87. The high score obtained from the scale indicates that mental health is positive.

Mental Health Literacy (MHL) scale was developed by Jung et al (17) and adapted to Turkish by Göktaş et al (18). The scale consists of three factors, which are knowledge, belief and resource oriented, and 22 items. The score to be taken from the scale varies between 0-22 and is evaluated to be positive as the score increases. The Cronbach's alpha coefficient of the MHL-Scale was found to be 0.75 in our study, while the original coefficient was 0.71.

2.5. Intervention

The MHFA program was translated and modified to suit the Turkish context. The MHFA program adopts the ALGEE approach, which is a 5-step action plan to recognize and manage MHP. ALGEE; consists of steps such as Approach the person, Assess the risk, Listen non-judgmentally, Give support and information, Encourage the person to get appropriate professional help and Encourage other support (5). The first part of the training includes information about the definition of mental health, its epidemiology, its effects, and prevention, early intervention, treatment and assistance. Common cultural and social discourses such as "people with mental illness are dangerous" and "people with mental illness should be segregated" are discussed, as well as the impact of stigma and discrimination on the help-seeking behavior of people with mental health problems. In the second part of training, common mental health problems such as depression, anxiety, stress and substance abuse are discussed. For each disease, information is given about risk factors, appropriate interventions, the importance of early intervention, disease-related crises and helpful resources. The ALGEE action plan is applied to each mental health problem, specifying the actions that need to be taken. The third part includes first aid for mental health crises such as suicidal ideation and behavior, self-harm, acute effects of drug and alcohol abuse and aggressive behavior (39).

The training was comprising of knowledge presentations, quiz, case video and discussions. Group 1 participants received MHFA training. First author who is an occupational health nurse with MHFA certified, delivered 2-day online courses consisting of 8-hours were delivered. Control group received no intervention during the data collection period.

2.6. Data Analysis

To compare of presence of mental illness, demographic and having a relative with mental illness characteristics in both groups, we used chi-square (χ^2) test and independent sample t test.

Mann Whitney U test was applied to compare the positive mental health scale and mental health literacy scale and subscale scores of the intervention and control groups, and the Wilcoxon signed-rank test was used to compare the pre-test and post-test results. The significance level was evaluated at p<0.05 level.

3. RESULTS

3.1. Sample characteristics

Figure 1 shows the flow of participants from recruitment through randomization and data collection. The study was performed with 88 office employees in the intervention group and 90 office employees in the control group who were randomly allocated, consented to participate and working in a fast-moving consumer goods company (N= 920)

(Figure 1). The majority of participants in both groups were female (60.2%, 56.7%). There was no dropout from the study in both groups. Post-test data were obtained one week after the MHFA training, and we did reminders for those did not fill out the questionnaires via e-mail several times and full participation was ensured.

3.2. Findings on descriptive characteristics

There was no difference between the intervention and control groups in terms of mean age, gender and any health problem (p>.05) (Table 1).

Table 1. Demographic characteristics of the participants in the two groups

Characteristic	Intervention (n=88)	Control (n=90)	Statistics
	Mean±SD	Mean±SD	t. p
Age (Mean +SD)	35.1±5.6	34.0±5.8	1.25; 0.21
	n (%)	n (%)	χ^2. p
Gender			
Female (n=104)	53 (60.2)	51 (56.7)	0.23; .65
Male (n=74)	35 (39.8)	39 (43.3)	
Presence of mental illness			
Yes	6 (6.8)	11 (12.2)	1.50; .31
No	82 (93.2)	79 (87.8)	
t= Independent sample t test; χ^2= Chi-square test			

When the distribution of the descriptive characteristics of the participants in the study was examined, the mean age of the intervention group was 35.1+5.6, and the mean age of the control group was 34+5.8. When examined in terms of gender, 60.2% of the intervention group and 56.7% of the control group were female. 93.2% of the intervention group and 87.8% of the control group did not have any health problems. (Table 1).

3.3. Findings on positive mental health and mental health literacy in intervention and control groups

There was no difference between the pre-test scores of positive mental health scale in the intervention and control groups except the Factor 5: Problem solving and self-actualization (p>.05) (Table 2).

The score of the intervention group was found to be significantly higher than the control group in terms of all sub-factors and total PMH score except Factor 4: Autonomy, when the positive mental health scale post-test scores of the groups were compared (p<.05). It was determined that the post-test score of Factor 4: Autonomy in the intervention group was higher than the pre-test (p<.05).

When the PMH scale pre-test and post-test scores of the intervention group were compared, total PMH and all factor post-test scores except Factor 2: Prosocial attitude were found to be higher than the pre-test (p<.05) (Table 2).

Table 2. Comparison of scores based on Positive Mental Health Scale in intervention and control groups

Positive Mental Health Scale Factors		Intervention		Control		Statistic	
		Mean	SD	Mean	SD	U^z	p
Factor 1: Personal Satisfaction	Pretest	27.9	3.8	28.1	3.1	-0.3	.779
	Posttest	29.5	2.0	28.2	3.6	-2.2	**.03**
Statistic	W^z. p	-3.857	**<.001**	-.204	0.838		
Factor 2: Prosocial Attitude	Pretest	18.2	1.7	17.8	1.6	-1.6	.103
	Posttest	18.3	1.7	17.6	2.1	-2.4	**.02**
Statistic	W^z.p	-.771	.440	-.368	0.713		
Factor 3: Self Control	Pretest	15.8	2.5	15.8	1.9	-0.7	.456
	Posttest	17.0	1.9	15.9	2.4	-2.2	**.03**
Statistic	W^z.p	-4.055	**<.001**	-.072	0.943		
Factor 4: Autonomy	Pretest	16.5	2.7	16.9	2.3	-0.9	.371
	Posttest	17.6	1.5	16.8	2.3	-1.9	.06
Statistic	W^z.p	-3.398	**.001**	-.598	0.550		
Factor 5: Problem Solving and Self-Actualization	Pretest	31.1	3.7	29.9	3.0	-3.0	**.003**
	Posttest	32.3	2.9	30.3	4.1	-3.3	**>.01**
Statistic	W^z.p	-2.278	**.023**	-1.055	0.292		
Factor 6: Interpersonal Relationship Skills	Pretest	23.5	2.8	23.2	2.6	-1.2	.234
	Posttest	24.6	2.5	23.3	3.3	-2.7	**.01**
Statistic	W^z.p	-3.354	**.001**	-.377	0.706		
Total Positive Mental Health Scale	Pretest	133.0	12.4	131.7	7.8	-1.6	.112
	Posttest	139.4	9.9	132.1	13.3	-3.9	**<.001**
Statistic	W^z.p	-4.697	**<.001**	-.667	0.505		

Uz = Mann Whitney U; Z = Wilcoxon Signed Ranks Test

Table 3. Comparison of scores based on mental health literacy scale in intervention and control groups

Mental Health Literacy Scale Factors		Intervention		Control		Statistic	
		Mean	SD	Mean	SD	U^z	p
Factor 1: Knowledge-Oriented MHL	Pretest	8.2	2.1	7.5	2.0	-2.7	**.007**
	Posttest	9.3	1.3	7.5	2.2	-6.7	**<.001**
Statistic	W^z.p	-4.280	**<.001**	-.395	0.693		
Mean Difference		1.1	2.4	-0.1	2.9	-2.6	**.01**
Factor 2: Belief-Oriented MHL	Pretest	4.4	2.0	1.9	1.6	-7.5	**<.001**
	Posttest	5.5	1.8	2.2	1.6	-9.3	**<.001**
Statistic	W^z.p	-4.028	**<.001**	-1.367	0.172		
Mean Difference		1.1	2.3	0.3	2.3	-1.9	.06
Factor 3: Resource-Oriented MHL	Pretest	2.0	1.3	2.4	1.2	-2.2	**.03**
	Posttest	3.9	0.4	2.6	1.2	-7.7	**<.001**
Statistic	W^z.p	-7.384	**<.001**	-1.104	0.270		
Mean Difference		1.9	1.3	0.2	1.7	-6.2	**<.001**
MHL Total	Pretest	14.5	3.5	11.8	3.5	-5.0	**<.001**
	Posttest	18.6	1.9	12.3	4.0	-10.0	**<.001**
Statistic	W^z.p	-7.191	**<.001**	-.815	0.415		
Mean Difference		4.1	3.9	0.4	5.3	-4.7	**<.001**

Uz:Mann Whitney U; WZ: Wilcoxon Signed Ranks Test

A significant difference was found between the pre-test scores of mental health literacy scale in the intervention and control groups. Therefore, posttest-pretest differences

of the groups were analyzed. It was determined that the mean difference of knowledge sub-dimension, resource sub-dimension and total MHL in the intervention group was significantly higher than the control group, when evaluated according to their mean differences (p>.01) (Table 3).

In addition, the post-test scores of knowledge, belief and resource sub-dimensions and total MHL scores in the intervention group were found to be statistically significantly higher than the pre-test (p<.01). There was no difference between all sub-dimensions and total MHL pre-test and post-test scores in the control group (p>.05) (Table 3).

4. DISCUSSION

In this study, which was conducted to determine the effect of an occupational health nurse-led MHFA, on the behaviors, attitudes and knowledge of employees about MH, it was determined that PMH and MHL developed positively. Interpersonal relationship skills, problem solving and self-actualization, autonomy, personal satisfaction, self-control and prosocial attitude, which was our primary outcomes, were found to be improved significantly compared to the control group after MHFA, which includes health training of the employees in the intervention group on communicating/contacting, speaking, helping, and directing to get professional help with a person with a MHP. At the same time, it was determined that the knowledge, belief and resource-oriented MHL scores that are secondary outcome of the intervention group increased.

Mental Health First Aid training helps to create a work culture with transparent and holistic management policies, where employees can freely express their MHP (9). In this study, the implementation of the program in the workplace and its positive results showed that MHFA can be used in workplaces.

Although studies in the workplace are limited, in a study involving employees in various business lines such as public, private sector and non-governmental organizations, it was found that employees' confidence in contacting, speaking and helping people with MHP improved (7). A study with student affairs staff of a university demonstrated the benefits of MHFA in terms of increasing confidence and knowledge, recognizing and interacting with people with MHP (19). Other workplace studies have shown that MHFA is quite acceptable in a workplace setting and that the employee group may benefit from this training (20, 21).

In our study, it was found that the PMH sub-dimension scores increased in favor of the intervention group. These results confirm the hypotheses 'H1: The PMH scale score will be higher in the intervention group than in the control group' and 'H3: Employees in the intervention group will have a higher PMH scale post-test score.'

On the other hand, we could not find a study in the literature in which the measurement tools used in our study were used to evaluate the MHFA results. However, there are studies evaluating the effects of different measurement tools that evaluate the knowledge, attitudes and behaviors of the participants on the MHFA results. The results of these studies show positive changes in the knowledge, attitudes and behaviors of the participants, similar to our results (10,19,20,23-25).

In some studies in which MHFA training is conducted, it is seen that different outcome criteria such as trust, intention, and stigma are addressed (7,26-28). In a study with nursing students, it was found that self-confidence in helping others increased in the intervention group after MHFA (29). In another trial conducted with medical students, it was found that confidence in helping a person with a MHP increased in the intervention group (30). In addition, significant positive changes were observed from baseline to 6 months post-training in terms of self-confidence and behavioral intention to perform MHFA actions (1,7,20, 31). Although trust and intention were not evaluated in our study, positive changes in personal satisfaction and interpersonal relationship skills can be evaluated in parallel with trust and intention.

In meta-analysis studies, it was found that MH knowledge improved, stigmatizing attitudes decreased and helping behaviors increased (8,10,11). Similarly, it was determined that MHL increased in our study, and the hypothesis 'H4: The post-test scores of the employees in the intervention group for the knowledge, belief and resource sub-dimensions of the MHL scale will increase' was confirmed. It is important to improve the level of MHL in the society so that individuals can recognize MH disorders and manage their own MH more effectively (32). Studies have shown that information obtained about MH and diseases creates a better awareness for help and treatment, and increases the behavior of properly using appropriate treatment resources in individuals, and that reducing stigma against mental illness at individual, social and institutional levels is beneficial in early diagnosis of mental disorders, may improve MH results, and has increased the effective use of health services (17,33,34).

In the literature, positive results were obtained in studies evaluating the effect of MHFA on MHL. In a study conducted with university students, significant findings were obtained showing that the program significantly improved the participants' MH knowledge and literacy (35). In another study conducted with public sector employees, it was determined that participants showed significant improvement in their MH knowledge and helping behaviors (20). In another study conducted with a group of adults and young individuals, it was emphasized that MHFA contributed positively to an increased MHL (1). Additionally, in some studies, participants stated that MHFA improved their knowledge of recognizing the signs and symptoms of mental illnesses and how to approach individuals (20,36). Similar to the results of the studies in the literature, this study confirmed that MHFA positively increased the MHL of the participants, and it was determined that the knowledge, belief and resource-oriented MHL level of the intervention group increased compared to the control group. These results confirm the hypothesis 'H2:

The knowledge, belief and resource sub-dimensions scores of the MHL scale for the employees in the intervention group will be higher than the control group.'

At the same time, studies have shown that MHFA reduces participants' stigmatizing thoughts about MHP of people who are important to them (1,8). Although stigma was not evaluated in our study, it is stated in the literature that stigma is associated with MHL (37-39). Cognitive stigma is related to people's attitudes and is based on their perception of problems in social relationships. In future studies, the effect of MHFA on stigma can be evaluated.

5. CONCLUSION

Mental health first aid training was determined to be an effective program and can be used in workplaces. Furthermore, MHFA can be beneficial in terms of improving MH and increasing awareness in studies conducted in different community groups and working population.

The strength of the study is that it was conducted in a randomized controlled design. The randomized controlled design is the gold standard for determining differences between groups in examining the effect of the MHFA intervention. In addition, the sample size and high participation rate in this study are other strengths of the study.

This study has several limitations. First, a double-blind design was not possible due to the feature of intervention. However, we coded group data thus outcome assessors were masked. Second limitation of this study is that the long-term results of MHFA were not evaluated. It is recommended to evaluate the long-term effects of the program by including a follow-up period in further studies. In addition, in order to evaluate the effect of MHFA on individuals with MHP, after the interviews made by mental health first aiders, the individuals who benefit from it can be evaluated in terms of sharing their problems and seeking professional help.

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