



Effect of Narrative Therapy-Based Group Psychological Counseling on Internet Addiction among Adolescents

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Abstract

Background: There are a large number of psychological problems caused by Internet addiction. We aimed to explore the intervention effect of narrative therapy in combination with Pilates exercise on Internet addiction among adolescents.

Method: From July 2021 to October 2021, 42 adolescents with Internet addiction selected from four communities in Yiyang City of China were randomly divided into the intervention and control groups with 21 members in each group. The intervention group participated in the intervention of narrative therapy in combination with Pilates exercise eight times, whereas the control group did not receive any intervention. The 12-item General Health Questionnaire, Self-rating Young's Diagnostic Questionnaire of Internet Addiction, and Positive Affect Subscale were used to measure the psychological indexes of the adolescents before and after the intervention.

Results: Compared with those in the control group, the adolescents in the intervention group had an obvious decrease in the degree of Internet addiction with a statistically significant difference before and after the intervention ($P < 0.001$). After the intervention, the intervention group had significantly higher mental health scores and significantly lower scores for anxiety, depression, social dysfunction, and loss of interest than the control group. After the intervention, the intervention group showed an obvious increase in the score for positive affect with a statistically significant difference before and after the intervention ($P < 0.001$).

Conclusion: The intervention method proposed in this study could effectively solve the problem of Internet addiction among adolescents.

Keywords: Narrative therapy; Pilates exercise; Internet addiction; Mental health

Introduction

Internet addiction is defined as “Internet use impulse out of control without the action of addictive substances, usually manifested by excessive use of the Internet to the detriment of the user's social and psychological functions” (1,2). Internet addiction leads to negative social, academic, and

health consequences, such as social withdrawal, academic neglect, loneliness, and depression (3). Therefore, intervening in the problem of Internet addiction among adolescents is of great practical importance. A review of previous treatment methods targeting Internet addiction among ado-



lescents showed that cognitive intervention (4) is mostly applied to foster beneficial changes in the behaviors and emotions of adolescents with Internet addiction mainly through intervening in or correcting their wrong cognitive concept of Internet addiction.

Narrative therapy is a typical psychotherapy paradigm of postmodernism (5), which holds that problems are kept in language and can be solved through conversation (6). Specifically, in the process of listening to a visitor's story and talking with them, a therapist uses techniques, such as externalization, restructuring, and rewriting, to help the visitor externalize their problem; guide them to reconstruct their story; assist them to find new angles and attitudes; and arouse their internal power of change to get them out of their current negative state (7). Narrative therapy is also extensively applied in many fields with regard to learning disabilities, eating disorders, and social phobia and has achieved favorable intervention results (8). However, it has not been systematically used to solve the problem of Internet addiction among adolescents. This situation indicates that this therapy can be attempted and explored to provide a new perspective for solving the problem of Internet addiction among adolescents.

Exercise intervention is an important intervention mode in addition to the aforementioned intervention method of ameliorating Internet addiction through dialogue between the therapist and the visitor (9). Pilates, in particular, is a kind of exercise intervention. It combines the traditional Oriental fitness methods of breath regulation and meditation with Western fitness methods that conceptually focus on muscle and bone exercise. Therefore, Pilates not only pays attention to the recovery and exercise of bodily functions but also emphasizes the training of concentration on breathing and the mind to achieve the ideal state of physical and mental harmony and unity (10). Pilates exercise can effectively improve individuals' mental health levels (11). This effect is the reason why the tentative application of Pilates in the field of Internet addiction in combination with narrative therapy is expected to am-

plify the treatment effect. While their internal power of and desire for change is aroused by narrative therapy, individuals may also divert their attention, regulate their emotions, and gradually discard their reliance on the Internet with assistance from Pilates.

Therefore, this study was designed to explore the intervention effect of narrative therapy in combination with Pilates exercise on Internet addiction among adolescents.

Materials and Methods

From July 2021 to October 2021, 42 adolescents with Internet addiction from four communities in Yiyang City, China, were divided into two groups with 21 members in each group. The adolescents with Internet addiction in the control group, similar to other normal students in their grade, attended self-study classes in accordance with the original teaching plan. The adolescents identified by the questionnaire to have Internet addiction were divided into two groups under the principle of proportionality in accordance with their grade, gender, and degree of Internet addiction. On the basis of the understanding of the physical quality of each participant and the investigation of the physical education teachers of the adolescents with Internet addiction in the intervention group, the intensity of exercise intervention was controlled at a medium level each time.

All the volunteers were fully informed of the purpose, main contents, and precautions of this intervention participated in this intervention voluntarily. All signed informed consent. At the same time, this study met the requirements of the local Ethics Committee and was approved.

Research tools

1) Twelve-item General Health Questionnaire (12): The 12-item general health questionnaire (GHQ-12) compiled by Goldberg (13) and revised by Chen & Chan (12) was used to measure an individual's mental health. The scale contains 12 items and is divided into three subscales: anxiety and depression, social dysfunction, and

loss of interest. It adopts a 1–4 scoring system with 1, 2, 3 and 4 points respectively representing “never”, “rarely”, “sometimes”, and “often”. The sum of the score in each item suggests the individual’s overall mental health level. A high score indicates a high mental health level. The scale has good reliability and validity. In this study, the Cronbach’s α coefficients of the scale were 0.910 and 0.977.

2) Self-rating Young’s Diagnostic Questionnaire of Internet Addiction: The Self-rating Young’s Diagnostic Questionnaire of Internet Addiction (14) was used to evaluate the status of Internet addiction in an individual. The questionnaire contains 10 items and adopts a 1–6 scoring system with 1–6 points corresponding to options ranging from “completely inconsistent” to “completely consistent.” The average score of all items is calculated. A high score indicates that the individual has serious Internet addiction. This scale has good reliability and validity. In this study, the Cronbach’s α coefficients of the scale were 0.961 and 0.948.

3) Positive Affect Subscale: The Positive Affect Subscale in Positive Affect and Negative Affect Scale (15) was used to measure positive emotions in an individual. The subscale contains eight items (e.g., “feel happy”) and adopts a 1–4 scoring system with 1–4 points corresponding to options ranging from “never” to “often”. The average score of all items is calculated. A high score suggests a more positive or negative emotional experience. The scale has good reliability and validity (15). In this study, the Cronbach’s α coefficients of the Positive Affect Subscale were 0.941 and 0.934.

Intervention method

The participants in the intervention group received narrative group counseling for 8 weeks once a week for 45–60 min each time. Narrative group counseling was divided into three stages each time. It included preheating (5–10 min) in Stage 1, narrative guiding (15 min) in Stage 2, and sublimation (20 min) in Stage 3. One of the four goals, including externalizing the problem, structuring the story, reconstructing the story, and

building self, was completed every 2 weeks. Group forming was executed in the first class. The second class aimed to help students obtain deep self-understanding and prepare for the following efforts on narrative. The third class corresponded to the stage of externalizing the problem. Students were guided to know that their failure to control their own Internet use behavior is only a problem rather than their own individual disability. They were encouraged to deal with the problem instead of being controlled by this intractable problem. The fourth class focused on the discovery of exceptions. Students were asked to look for problems in their original answers, deconstruct the once-ossified problems to identify the exceptional moments of these problems, and improve their sense of self-efficacy. The fifth, sixth, and seventh classes corresponded to the stage of rewriting. The eighth class was the stage to end the group intervention. Its main goal was to deal with the emotions associated with separation in the group members and evaluate the group members’ awareness of Internet addiction. The specific contents included filling in the activity feedback and survey questionnaire of this study; playing the game of “telling” through which students in the whole class could find changes in others, especially changes after adhering to the Pilates exercise intended for overcoming Internet addiction; and finally taking photos of the members through which the group activity could end in a positive atmosphere.

In addition to receiving narrative group counseling, the intervention group also participated in Pilates exercise. The movement difficulty of the Pilates exercise was arranged from easy to difficult. Pilates exercise was conducted twice a week on each Monday and Friday for approximately 1 h each time. After 2 weeks of training by professional teachers to assist the volunteers to master the basic movements and knowledge of Pilates, the formal intervention experiment was begun with a cycle of 8 weeks.

The control group was not given any intervention but merely continued their routine life in school in normal time. The two groups filled in the GHQ-12, Self-rating Young’s Diagnostic Ques-

tionnaire of Internet Addiction, and Positive Affect Subscale anonymously before and after the intervention. The changes before and after the intervention were compared on the basis of the scores to explore the effect of this intervention experiment on adolescents with Internet addiction.

Statistical methods

Data were analyzed using SPSS 19.0 (IBM Corp., Armonk, NY, USA). Independent sample t-test was used for comparison between two groups of means. Paired t-test was used for comparison within a group. Qualitative data were expressed as the number of cases. Chi square test or rank sum test was used for comparison between groups. The difference is statistically significant at $P < 0.05$.

Results

Before the intervention, there were 63 participants in either the intervention or control group. After the intervention, 3 and 5 participants were excluded in the intervention and control groups, respectively. The final total participants were 60 and 58 in the intervention and control groups, respectively. Table 1 shows no statistical significance among the participants in terms of age, gender, family economy, and concern with the pandemic. This result suggests that the two groups were comparable in demographic information.

Table 1 shows the absence of significant differences in the Internet addiction scores between the intervention and control groups before the intervention.

Table 1: Comparison of Internet addiction scores before and after intervention

Group	Before intervention	After intervention	Difference before and after intervention	P value of intra-group comparison
Intervention group (14)	4.53±0.84	2.92±0.44	-1.61±0.58	<0.001
Control group (14)	4.24±0.74	4.16±0.76	0.08±0.16	0.028
<i>t</i>	1.211	-6.422	-11.570	
<i>P</i>	0.233	<0.001	<0.001	

Although the scores of both groups decreased significantly after the intervention, the decrement in the Internet addiction score of the intervention group was higher than that of the control group. This result suggested that the intervention effect on the intervention group was better than that on the control group. Table 2 shows no significant differences between the intervention and control groups before the intervention in terms of the scores for mental health, anxiety and depression, social dysfunction, and loss of interest. After the intervention, the intervention group showed significantly increased mental health scores but significantly decreased scores for anxiety and de-

pression, social dysfunction, and loss of interest, whereas no significant changes were observed in the control group. This situation suggested that the intervention effect on the intervention group was better than that on the control group.

Table 3 shows no significant differences in positive emotion scores between the intervention group and the control group before the intervention. After the intervention, the positive emotion score of the intervention group increased significantly, whereas no significant change in that of control group was observed. This result suggested that the intervention effect on the intervention group was better than that on the control group.

Table 2: Comparison of the mental health score before and after intervention

<i>Variable</i>	<i>Group</i>	<i>Before inter- vention</i>	<i>After inter- vention</i>	<i>Difference before and after intervention</i>	<i>P value of intra- group comparison</i>
Total men- tal health score	Intervention group (14)	1.88±0.52	3.28±0.49	1.40±0.97	<0.001
	Control group (14)	1.77±0.51	1.76±0.53	0.00±0.26	0.946
	<i>t</i>	0.745	9.639	6.405	
	<i>P</i>	0.461	<0.001	<0.001	
Anxiety and de- pression	Intervention group (14)	1.92±0.46	3.27±0.51	1.36±0.89	<0.001
	Control group (14)	1.75±0.58	1.76±0.60	0.01±0.37	0.886
	<i>t</i>	1.028	8.836	6.387	
	<i>P</i>	0.310	<0.001	<0.001	
Social dys- function	Intervention group (14)	1.85±0.62	3.29±0.56	1.44±1.11	<0.001
	Control group (14)	1.81±0.54	1.75±0.58	-0.06±0.40	0.506
	<i>t</i>	0.199	8.759	5.825	
	<i>P</i>	0.843	<0.001	<0.001	
Loss of interest	Intervention group (14)	1.89±0.59	3.29±0.51	1.39±1.00	<0.001
	Control group (14)	1.74±0.51	1.77±0.54	0.04±0.37	0.666
	<i>t</i>	0.906	9.386	5.802	
	<i>P</i>	0.370	<0.001	<0.001	

Table 3: Comparison of positive and negative affect scores before and after intervention

<i>Group</i>	<i>Before inter- vention</i>	<i>After inter- vention</i>	<i>Difference before and after in- tervention</i>	<i>P value of intra-group comparison</i>
Intervention group (14)	2.02±0.80	2.81±0.51	0.79±0.55	<0.001
Control group (14)	1.94±0.54	2.11±0.67	0.17±0.58	0.200
<i>t</i>	0.394	3.830	0.535	
<i>P</i>	0.696	<0.001	0.001	

Discussions

This study found that although the Internet addiction scores of the intervention and control groups decreased after the intervention, the intervention group had a higher decrease in their Internet addiction score than the control group. This difference indicated that narrative therapy in combination with Pilates can effectively solve the problem of Internet addiction among adolescents

likely because of the following reasons: First of all, some adolescents with Internet addiction deal poorly with interpersonal relationships, experience difficulties in dealing with daily life and pressures, and suffer from poor social adaptation. In response, narrative therapy allows adolescents with Internet addiction to reveal the confusions in their dialogue to their therapist, externalize their problems, release pressure, and alleviate their inner depression (16). Second, the therapist

engages adolescents with Internet addiction in self-examination and reflection, helps them analyze the causes of their Internet addiction, and objectively traces the root causes and processes that gave birth to the problem. In addition, the therapist guides adolescents with Internet addiction to look at the problem from multiple perspectives (17). These adolescents should be guided to not only see the adverse consequences of Internet addiction but also perceive the positive side. For example, these individuals constantly try to beat monsters, accomplish missions, and gain access to higher levels in the process of playing games, in which their perseverance and persistence are highly perceivable. These advantages are not only reflected in playing games but can also be applied in real life. In addition, the therapist guides the adolescents to discover other possibilities, explore their potential, convince them that they are able to deal with problems and can live energetically with these abilities, and help them rewrite and consolidate their positive stories, thus gradually reducing their dependence on the Internet. Meanwhile, the time conflict between Pilates exercise and Internet use inevitably reduces part of the adolescents' time online and plays a role in diverting the attention of adolescents with Internet addiction. Moreover, Pilates exercise enables individuals to reduce their mental and emotional stress, release various negative emotions, enhance their emotional elasticity, decrease the time and frequency of being troubled by negative emotions, and recover quickly from negative experiences (18).

This study found that after the intervention, the intervention group showed reductions in the degree of anxiety and depression, social dysfunction, and loss of interest and certain improvements in their mental health levels. These results indicated that narrative therapy in combination with Pilates plays a significant role in improving adolescents' mental health. First, after the intervention, the adolescents with Internet addiction in the intervention group had lower anxiety and depression than those in the control group. This result is consistent with the findings of previous studies on narrative therapy alone (19) and on

Pilates alone (20). Through narrative therapy, the counselor could help the parties identify a positive direction, offer consolidated methods, provide assistance to the parties to live actively, and then reduce their anxiety and depression arising from their uncertainty about how to face their future. In the meantime, Pilates exercise, both dynamic and static, allows the parties to vent negative emotions and enables them to relax and organize their body and mind to the greatest extent, thus improving psychological adjustment to depression and anxiety. Second, the therapy can reduce social dysfunction among adolescents with Internet addiction. In the face of various pressures in life, adolescents generally choose to escape from realities through the Internet and seek compensation in the virtual world. As a consequence, their separation from realities only aggravates their problem of social dysfunction. When providing narrative therapy, the therapist assists Internet-addicted adolescents to gradually get out of the virtual world, guides them to see the support from their parents and friends, and urges them to go along the right track (21).

Finally, narrative therapy in combination with Pilates exercise can increase the interest of Internet-addicted adolescents in life and learning. The therapist leads adolescents with Internet addiction to observe the possibilities of living in other ways, encourages them to get rid of their Internet dependence, and motivates them to restart their life. Moreover, Pilates exercise boosts the adolescents' positive reactions, such as self-efficacy; helps them generalize this sense in daily life; and arouses their interest in new life and other things (22). The overall psychological level would naturally improve among adolescents with Internet addiction when they can vent their adverse emotions, release pressure, and believe that they have the ability to change their current status. In brief, the intervention in which narrative therapy and Pilates exercise are combined can significantly reduce anxiety and depression in adolescents with Internet addiction, prevent them from suffering social dysfunction, reduce their loss of interest, and effectively optimize their mental health.

This study found that the intervention group had a considerably more obvious increase than the control group in positive emotional experience. This result suggested that narrative therapy in combination with Pilates exercise has a significant effect in increasing positive emotional experience and regulating emotions possibly because of the following reasons: First, when choosing and narrating their life stories, adolescents with Internet addiction often focus on negative information and miss positive fragments due to their passivism (23). During communication, the therapist helps the parties recall the positive events they have experienced in their life to arouse their internal psychological motivation and strengthen their internal ability to change. When the parties perceive that they have the ability to change their current status through vigorous efforts, they would naturally have more positive emotions (24). Second, while treating individuals with narrative therapy, the counselor helps them build a positive story, reconstruct a story that is expected by the parties to be free of Internet addiction and full of family harmony, replace the problematic story with this story, and provide positive and beneficial reference (25). Furthermore, Pilates exercise with moderate intensity promotes metabolism in individuals, thus facilitating their venting of negative psychological energy, alleviating undesired emotions, and indirectly triggering changes in the individuals' psychological state by affecting the nervous system and endocrine activities. Finally, Pilates exercise requires concentration on the mind.

During exercise, the absence of mental distractions enables the parties to effectively adjust their mind and increase positive reactions, thus entering a pleasant and calm state of mind. Given these reasons, narrative therapy in combination with Pilates exercise can improve positive emotions in adolescents with Internet addiction to a large extent.

Conclusion

The intervention effect of narrative therapy in combination with Pilates exercise on Internet

addiction among adolescents was discussed in this study. The results showed that relative to the control group, the intervention group experienced a significant improvement in Internet addiction; certain reductions in the degree of anxiety, depression, social dysfunction, and loss of interest; an increase in positive emotional experience; and a significant improvement in the level of mental health after the intervention. These results suggested that narrative therapy in combination with Pilates has a good intervention effect on Internet addiction among adolescents. In the future, comprehensive and in-depth studies on different populations can be conducted to explore the mechanism underlying the positive effect of this combined therapy on Internet addiction to provide a reference for the development of intervention modes in which sports, psychology, and education are combined and to offer theoretical and practical reference for reducing Internet addiction.

Journalism Ethics considerations

Ethical issues (Including plagiarism, Informed Consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc.) have been completely observed by the authors.

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Conflict of interest

The authors declare that there is no conflict of interests.

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