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Original Article

Observation of influences of mental health promotion and mental intervention on mental health status of professionals

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Abstract: Objective: To observe the influences of mental health promotion and mental intervention on mental health status of professionals. Method: 2878 professionals for physical examination were selected and randomly divided into treatment group and control group, with 1443 professionals and 1435 professionals, respectively. Then, the difference of mental health status before and after mental intervention between two groups was compared. Results: In treatment group, the proportion of people with healthy mental and modest pressure after mental intervention was higher than that before mental intervention and that in control group after mental intervention (*P<0.01*); the proportion of people with psychological sub-heath and moderate pressure after mental intervention was significantly lower than that before mental intervention and that in control group after mental intervention (*P<0.05*). There was no significant difference in mental health status in control group before and after mental intervention (*P>0.05*). Mental health consciousness, health status, self pressure-relief capability, job satisfaction, and happiness index of professionals were up to 63.3%~78.8%. Conclusions: Mental health promotion and mental intervention may significantly improve mental health status of professionals.

Keywords: Mental health status, intervention, professionals

Introduction

Health refers to not only no illness in physical, but also good status in physiology, psychology, social adaptation and moral. Psychology and physiology are affected, promoted, and interacted as both cause and effect with each other. Mental health status is the primary factor of health [1-3]. In order to know the influences of mental health promotion and mental intervention on mental health of professionals [4-6], we assessed the mental health status of professionals having physical examination in our hospital with symptom checklist (SCL-90), pressure self-rating scale (SSQ-53), etc. [7]. The analysis report is as follows.

Objects and methods

Objects

Among 2878 professionals, 1585 professionals were male, and 1293 were female; they were in age of 22~48 years with average age of 36.5 years old. Among these professionals, 732 were civil servants, 1041 were personnel of enterprises and public institutions, 265 were researchers, 314 were IT technicians, 321 were marketing personnel, and 205 were teachers. These professionals were randomly divided into treatment group and control group, with 1443 cases and 1435 cases, respectively.

Methods

Mental intervention: No mental intervention in any form was conducted to control group, while sequential mental health promotion and mental intervention were conducted to treatment group for 3 months. The intervention included: (1) mental health promotion training, including pressure and failure resistance training, adaptive capacity training, emotion training, mentality training, relaxation training, etc.; (2) prevention intervention of psychological problems, including mental invention for depression, anxiety, paranoia, enforcement, hypochondriasis, interpersonal sensitivity, perfe-

ctionism, fear, insomnia, self-abasement, etc.; (3) prevention intervention of mental crisis, including mental intervention for lovelorn, divorce, natural disaster, office-leave (unemployment), marital conflict, death of family and friends, commit suicide, serious disease, education crisis of children, work dispute, etc.; (4) mental intervention of occupational problems, including mental intervention for working pressure, discord with superior, work delay, occupational burnout, career planning, interpersonal relationship during work, sway between gain and loss, negative job attitude, bad job adaptation, positive mood, etc.; (5) positive mental development and psychological capital promotion training, including mental intervention for positive mood, positive cognition, positive behavior, etc. Mental intervention was conducted in such ways as musical treatment, psychological video, mental animation, electric mental journal, mental training, etc.

Mental assessment tools: (1) Symptom checklist (SCL-90) in mental examination and mental health cloud management system developed by Zhongshengkaixin Enterprise Group was adopted to assess: there were 90 items in SCL-90, covering 9 factors of somzatization, obsessive-compulsive symptom, sensitive interpersonal relationship, depression, anxiety, hostility, fear, paranoia, and psychoticism. The symptom severity was rated by 5-level rating system: 1 point, none; 2 points, mild; 3 points, moderate; 4 points, slightly severe; 5 points, severe. According to SCL-90, the score for all factors can be divided into 5 levels, including healthy mentality (average score of all factors <1.5 points), sub-healthy mentality (average score of more than 1 factor ≥1.5 points and <2 points), mild mental problem (the average score of 1 or 2 factors ≥ 2 points and <3 points), moderate mental problem (the average score of 1 or 2 factors ≥ 3 points and <4 points, or the average score of 3 and more than 3 factors ≥2 points and <3 points), and severe mental problem (the average score of more than 1 factor ≥4 points, or the average score of 3 and more than 3 factors ≥3 points). In this study, professionals with severe mental problems were excluded, and mild and moderate levels were combined as mild-and-moderate mental problem. (2) Assessment was conducted by adopting pressure self-rating scale (SSQ-53): there were 53 items in SSQ-53, and 5-level rating system was adopted, including 0 point, none; 1 point, occasional; 2 points, sometimes; 3 score, often; 4 points, always. According to SSQ-53, the total score can be divided into 4 levels, including insufficient power (0~10 points); modest pressure (11~34 points); moderate pressure (35~112 points), and severe pressure (35~212 points, and the score of Question 38≥2, or the scores of Question 36 and 51≥3, respectively). In this study, professionals with severe pressure were excluded. (3) Investigation was conducted by adopting effect evaluation questionnaire: this questionnaire was self-prepared, which included 20 items. Investigation referred to the self-assessment of effects after individual mental intervention, and the result was divided into four levels which were obviously improved, certain improved, uncertain, and not improved. SCL-90 and SSQ-53 assessment were conducted once before and 3 months after mental intervention, respectively. In addition, questionnaire investigation of effect evaluation was conducted for treatment group 3 months after mental intervention. Subjects were trained by physician qualified in mental professional training in details before assessment under unified instruction.

Statistical treatment: Statistical treatment was conducted by adopting SPSS 13.0 software package. Inter-group comparison was conducted through Chi-square test, and there was significant difference between treatment group and control group when $P<0.05$.

Results

Comparison of mental health status between two groups before and after mental intervention

Before mental intervention, there were no significant differences in the proportions of professionals with healthy mentality, sub-healthy mentality, and mild-and-moderate mental problem in two groups (*P>0.05*). After mental intervention, the proportion of professionals with healthy mentality in treatment group was significantly higher than that before mental intervention and that in control group after mental intervention (*P<0.01*), while the proportion of professionals with sub-healthy mentality was significantly lower than that before mental

Table 1. Comparison of mental health status between two groups before and after mental intervention cases (%)

Item	Treatment group (*n*=1443)		Control group (*n*=1435)	
	Before intervention	After intervention	Before intervention	After intervention
Healthy mentality	502 (34.8)	742 (51.4)$^{**,\Delta\Delta}$	489 (34.1)	528 (36.8)
Sub-healthy mentality	586 (40.6)	425 (29.5)$^{*,\Delta}$	605 (42.2)	579 (40.4)
Mild-and-moderate mental problem	355 (24.6)	276 (19.1)	341 (23.7)	328 (22.8)

Note: Compared with that before mental intervention, $*P<0.05$, $**P<0.01$. Compared with that in control group after mental intervention, $\Delta P<0.05$, $\Delta\Delta P<0.01$.

Table 2. Comparison of mental pressure status between two groups before and after mental intervention cases (%)

Item	Treatment Group (*n*=1443)		Control group (*n*=1435)	
	Before intervention	After intervention	Before intervention	After intervention
Insufficient power	154 (10.7)	112 (7.8)	166 (11.6)	148 (10.3)
Modest pressure	873 (60.5)	1083 (75.1)$^{**,\Delta\Delta}$	864 (60.2)	914 (63.7)
Moderate pressure	416 (28.8)	248 (17.1)$^{*,\Delta}$	405 (28.2)	373 (30.0)

Note: Compared with that before intervention, **P<0.01; Compared with that after intervention in control group, ΔP<0.05, ΔΔP<0.01.

Table 3. Results of effect evaluation questionnaire for treatment group cases (%)

Item	Obviously improved		Certain improved		Uncertain		Not improved	
Mental health consciousness	1137	(78.8)	166	(11.5)	91	(6.3)	49	(3.4)
Mental health status	913	(63.3)	266	(18.4)	150	(10.4)	114	(7.9)
Self pressure-relief capability	981	(68.0)	182	(12.6)	140	(9.7)	140	(9.7)
Job satisfaction	900	(62.4)	209	(14.5)	166	(11.5)	168	(11.6)
Happiness index	1020	(70.7)	175	(12.1)	133	(9.2)	115	(8.0)

intervention and that in control group after mental intervention (*P<0.05*). There was no significant difference in mental health status before and after mental intervention in control group (*P<0.05*). As shown in **Table 1**.

Comparison of mental pressure level between two groups before and after mental intervention

Before mental intervention, there were no significant differences in the proportions of professionals with insufficient power, modest pressure, and moderate pressure in two groups (*P>0.05*). After mental intervention, the proportion of professionals with modest pressure in treatment group was significantly higher than that before mental intervention and that in control group after mental intervention (*P<0.01*), while the proportion of professionals with moderate pressure was significantly lower than that before mental intervention and that in control group after mental intervention (*P<0.05*). There was no significant difference in pressure level before and after mental intervention in control group (*P<0.05*). As shown in **Table 2**.

Results of effect evaluation questionnaire for treatment group

Mental health consciousness, health status, self pressure-relief capability, job satisfaction, and happiness index of professionals were up to 63.3%~78.8%. As shown in **Table 3**.

Discussions

In this paper, the role of comprehensive intervention system for mental health promotion and psychological problems based on network in improving the mental health status of professionals was verified through conducting mental health production and mental intervention for 3 months and analyzing mental health status before and after mental intervention. In addition, new mental intervention method and sys-

tem with more practicability and effectiveness were discussed. The mental health promotion and mental intervention system based on network adopts music, video, animation, electric journal and training, etc. [8, 9], which are suitable for people with healthy mentality, sub-healthy mentality, mild-and-moderate mental problems, as well as people with insufficient pressure, modest pressure and moderate pressure [10, 11]. Because this system cannot solve severe mental problems and severe pressure, people with such problems need to be further identified and diagnosed by professional psychologists for professional mental treatment. Therefore, people with severe mental problems and severe pressure were excluded in this study.

Effects of mental health promotion and mental intervention

The result showed that before mental intervention, there were no significant differences in proportions of people with healthy mentality, sub-healthy mentality and mild mental problems between two groups. After mental intervention, the proportion of people with healthy mentality in treatment group was significantly higher than that before mental intervention and that in control group after mental intervention, while the proportion of people with sub-healthy mentality was significantly lower than that before mental intervention and that in control group after mental intervention. In addition, the result of effect evaluation questionnaire also showed that mental health consciousness, mental health status, pressure self-relief capacity, job satisfaction, and happiness index of treatment group also significantly improved [12, 13]. Above results showed that mental health promotion and mental intervention in PEM system effectively improved the mental health status of professionals [14-16].

Mental health promotion of professionals

Depression, anxiety, sensitive interpersonal relationship, job burnout, and other mental problems directly affect professionals' normal work and life, but most professionals and employers only pay attention to solution to mental problems. This negative measure may fall into a vicious circle that problems become more and more severe [17]. Mental health status constantly changes, so the group with healthy mentality and sub-healthy mentality may have mental problems when meeting with irritant problems or crisis incidents. Therefore, while mental problems are solved, mental health consciousness and mental health status of professionals should be improved, and positive psychology should be developed through taking mental intervention to realize early discovery, prevention, and intervention. Therefore, mental problems of professionals can be solved fundamentally [17, 18].

New method of mental intervention based on network

Mental intervention is the most common method in preventing mental problems and handling mental crisis. At present, this method is mainly applied to patients with various severe mental problems, neuroses, and other abnormal mental problems, or groups with mental crisis [19], such as patients with depressive disorder, people who attempted suicide, sufferer of natural disaster, etc. However, this method is seldom applied to normal people in improvement of mental health status. PEM mental health promotion and mental problem intervention system used in this study is a new method of intervention based on network, which covers multi-layer and multi-dimension intervention contents from mental problems to positive mentality. Various media ways, such as music, animation, video, magazine, etc., are adopted to give comprehensive intervention to individuals in terms of cognition, emotion, and behavior [20, 21]. Therefore, this system is suitable for the mental health promotion and positive mental intervention of people with healthy mentality, sub-healthy mentality, and mild-and-moderate mental problems [22, 23] to supplement traditional mental intervention with single layer and dimension for people with severe mental problems. In addition, the application of modern network may realize simultaneous mental intervention for several people without limitation of time and space. Based on above characteristics, online mental health promotion and mental intervention system is worth being promoted.

Disclosure of conflict of interest

None.

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