Research Paper

Goal Attainment Scale (GAS) Administration Workshop and Its Effects on Job Motivation and Burnout of Pediatric Occupational Therapists

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ABSTRACT

Objectives: The presence of skilled, motivated therapists is critical to meet the rehabilitation needs of children with disability. This study aimed to determine whether on-the-job training on applying goal attainment scaling (GAS) affects pediatric occupational therapists' burnout and job motivation.

Methods: This study was quasi-experimental with a pre-test-post-test design. After signing the informed consent, 35 pediatric occupational therapists at a child rehabilitation center attended a course of five 1.5-2 h workshop sessions during 5 consequent weeks on applying GAS in their workplace. Through the workshop, the trainees practiced setting goals and making 5-point scales to measure the degree of reaching those goals. The participant asked to bring some of their client's descriptions (anonymous) to the workshop as samples to talk about them. Afterward, they were asked to fill in the GAS documentation form as part of their rehabilitation records. Participants' job motivation and burnout scores were measured by the Maslach questionnaire and Loudahel Kitchener's Job Motivation Scale, respectively, before the workshop and 30 and 60 days later. The paired t-test and Wilcoxon test were used for comparisons.

Results: The Mean±SD job motivation scores, which were 42.37±6.73 before the intervention, rose to 52.82±8.51 and 56±7.59 at the end of the workshop (day 30) and on follow-up measurement (day 60), respectively (P<0.001). The effect size was 0.556. The burnout scores slightly decreased from 58±12.86 before the intervention to 55.37±12.07, with an effect size of 0.117 on day 60 measurements.

Discussion: A short on-the-job training workshop on applying GAS in the formal assessment of achievements in different aspects of child life by rehabilitation practices could help in enhancing therapists' job motivation. Positive effects of GAS administration on motivation and burnout in therapists should take into account along with the client benefits for judging the usefulness of the GAS.

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Highlights

• Running 10 hours of goal attainment scale (GAS) workshops for therapists is a feasible and effective training practice.

• Applying the GAS in clinical practice positively affected therapists' job motivation and reduced burnout.

• The effects of using GAS in clinical practice on burnout of therapists become obvious later than its effects on job motivation.

Plain Language Summary

Pediatric occupational therapists (OTs) help children with physical, sensory, or cognitive disabilities to become competent in everyday tasks such as eating, dressing, playing, going to school, interacting with others, and focusing on learning independently. As progress occurs slowly, OTs are exposed to tiresome and stressful job situations, which prone them to job burnout. Goal achievement scale (GAS) is a tool for setting clear rehabilitation goals and recording children's progress toward those goals, which OTs apply to parents and their children with disabilities in a participatory basis. It has already been shown that using the scale is useful for showing the progress of children undergoing rehabilitation in doing a different activity, their participation, and their quality of life (QoL). The present study showed that if pediatric OTs attend short-term on-the-job training workshops on applying GAS and use it regularly in their everyday occupational therapy practices, along with befits for detecting children's progress, it might help them on their job motivation and decrease their burnout. These findings need to be further examined in future research.

1. Introduction

Occupational therapists, as rehabilitation team members, try to find out why their clients cannot do what they want and help them solve their problems through therapies, prescribing adaptive devices, or environmental changes [1]. Decisions to use or exclude each kind of occupational therapy intervention could be followed by significant impacts on the client's health [2]. Working in the rehabilitation field demands high responsibility of the therapists. On the other hand, the success of intervention programs could be obvious only after a long time and might not make immediate feedback for the therapists. Therefore, working as a therapist could be stressful and disappointing. In fact, occupational therapists are exposed to stressful and tiresome job situation which is energy consuming and prone them to job burnout [3]. Note that the prevalence of burnout among occupational therapists has been reported as high as 80.4% [4].

Occupational therapists can provide the highest quality services only if they have specific goals, enough resources, knowledge, skills, passion, interest, personal health, and motivation [5]. Motivation is the running force that makes people use their mental energy to reach their goals [6]. Lack of motivation leads to burnout [5]. There are various ways to increase job motivation. Setting clear goals and achieving those goals could be a way to motivate therapists [7]. In clinical practice, occupational therapists mostly appraise their clients informally and do not systematically assess different aspects of improvements by applying rehabilitation measures in systematic and formal ways. An informal assessment might not clearly show the extent of child progress resulting from their intervention. Meanwhile, to set precise and clear objectives, an appropriate tool should be available, and the therapists should be skillful in using it in clinical settings. Goal achievement scale (GAS), which the World Health Organization (WHO) recommends, is a patient-centered tool to set precise goals for rehabilitation and measure the level of achieving those goals. The goals consider activities, participation and quality of life (QoL) of the people undergoing rehabilitation as well as environmental factors [8]. The Canadian occupational performance measure (COPM) and GAS instruments make it possible to generate individualized outcome measures according to the purpose of the rehabilitation program. COPM focuses on specific activities of productivity and leisure time along with self-care, child performance, and parental satisfaction. However, in using GAS, no particular set of activities or issues are focused on. So, a wider range of outcomes can be mentioned by parents, children, and therapists in the domains of improving structure, performance, and participation as purposes of the rehabilitation program [9].

For the first time, Kiresuk and Sherman introduced GAS in 1968 for mental health studies [10]. In 1979, Cytrynbaum et al. used it for setting clear rehabilitation goals and recording the progress of clients toward those goals. Many studies have shown the effectiveness of using GAS on demonstrating the progress of clients [11, 12], but so far, no study has examined if training courses on GAS scale administration would have any effect on job motivation or help in reducing the burnout of therapists. This study investigated the effects of participation in a short-term on-the-job training workshop on the GAS administration on the job motivation and burnout of pediatric occupational therapists.

2. Materials and Methods

This quasi-experimental study was field research with a pre-test-post-test design. The study has been approved by the Ethics Committee of the University of Social Welfare and Rehabilitation Sciences (Code: IR.USWR.REC.1398.058).

Study participants

The participants were a group of pediatric occupational therapists (OTs) who worked in a Pediatric Occupational Therapy Center in Tehran, Iran, in 2019. The participants were unfamiliar with GAS and did not use it before.

Sample size

Assuming a change of motivation scores of 5 points by the intervention, a power of 0.8, and a confidence interval of 95% to detect a significant difference, 32 pediatric OTs were required for this study. To compensate for people who might not agree to participate or lose to follow-up, we invited all 40 pediatric occupational therapists working in the Occupational Therapy Center. A total of 36 agreed to participate and signed the informed consent. Of them, 35 therapists continued their participation to the end of the study; thus, pre-test and post-test data analysis was performed on 35 subjects.

Study measures

Job motivation and burnout were used as outcome measures.

Job motivation

Loudahel Kitchener's job motivation questionnaire consists of 20 items scored on a 4-point Likert scale from strongly disagree=1 to strongly agree=4. The total score ranges between 20 and 80. A score between 20 and 40 indicates low job motivation, and those between 40 and 50 and above 50 indicate moderate and high job motivation, respectively. The correlation coefficient between the scores of this scale and those obtained from Spence and Helmrich's progress motivation questionnaire is calculated to be 0.71 [13]. The reliability of the questionnaire has been examined among a group of health workers in Iran, and the Cronbach alpha has been reported to be 0.82 [9].

Burnout

The Maslach burnout inventory (MBI) consists of 22 questions in three dimensions "emotional exhaustion", "depersonalization", and "personal accomplishment" in the context of professional activity. Each question is provided with a 7-point Likert scale, ranging from 0 to 6. Dimension scores and total scores are calculated by summing up related item scores. Total burnout scores below 18 are considered non-burnout, 19 to 53 as mild, 54 to 89 as moderate, and 90 to 132 as severe burnout. The internal correlation coefficient is 0.85 for emotional exhaustion, 0.71 for depersonalization, and 0.76 for personal adequacy [14].

Intervention

The intervention consisted of five 1.5-2 hours of workshop training sessions, in 5 consequent weeks, conducted in a Child Occupational Therapy Center. The GAS manual was used in this regard [15]. During the workshop, following an introduction to GAS and the international classification of functioning, disability, and health (ICF) in the first session, therapists were taught how to formulate goals and set 5-point scales from (-2) to (+2) to measure the degree of success in reaching their goals. The trainees practiced applying goal setting and making 5-point scales on the example scenarios. Some of these scenarios were provided by trainers. The others were anonymous descriptions of some of the participants' clients that the trainer had asked them to bring to the workshop. The content of the training sessions is presented in Table 1. At the end of the fifth session, the participants were given a GAS documentation form. Afterward, they were asked to fill out the form for each client in each therapy session and attach forms to the rehabilitation records. Therapists were also reminded once a week to complete the scale for their clients. The trainer was a pediatric occupational therapist who has been used to apply GAS in her clinical practice and was trained to conduct workshop on GAS scale administration.

Table 1. Content of training sessions

Sessions	Duration (h)	Description
1st	1.5	An introduction to the GAS, the purpose of using it, and its benefits, an introduction to ICF
2nd	1.5	How to use the GAS and set the targets: learning by doing exercises on written scenarios.
3rd	2	Skill generalization: By using the GAS for some of their clients.
4th	2	How to define 5-level rating scales for each goal, learning by doing exercises on scenarios and examples of their clients.
5th	2	Skills consolidation

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Study procedure

After obtaining informed consent from participants, they were asked to complete the Loudahel Kitchener job motivation questionnaire and Maslach burnout inventory. Each session was provided two times on two different days of the week, and the therapists were arranged in groups of 17 and 18 people according to their work schedule; so that attending the workshop would not interrupt their routine work schedules. The participants completed the questionnaire and the inventory again at the end of the fifth workshop session (day 30). The participants get reminders to complete GAS forms once a week. One month later (day 60), they completed the questionnaires for the third time.

Statistical analysis

The Kolmogorov-Smirnov test with the Lilliefors correction was used to examine the normality of motivation and burnout scores. Accordingly, the significance of changes by intervention in burnout scores was investigated by the paired t-test and those of job motivation scores by the Wilcoxon test. The Cohen's d effect size was calculated and classified as small (0.2–0.49), medium (0.5–0.79), or large (0.8 or more) [16].

3. Results

More than 90% of participants were under 30 years old, and the M/F ratio was 3/7, 68% had BS, and others had MSc degrees.

Job backgrounds of participants, based on self-reports, indicated that only one of the participants had a work experience of less than a year, and more than 85% were working as pediatric OT for 1 to 5 years. More than half of the therapists were working 6 days a week, and 65.7% of therapists ran more than 31 therapy sessions per week. Only 25.7% of therapists were active in mental and physical occupational therapy. Others were active in only one area. Figures 1 and 2 demonstrate the occupational therapists' motivation and burnout mean scores on days 1, 30, and 60, respectively.

Comparing of job motivation and burnout scores and their components on day one with those obtained after the workshop and regular use of the GAS in the field can be seen in Table 2.

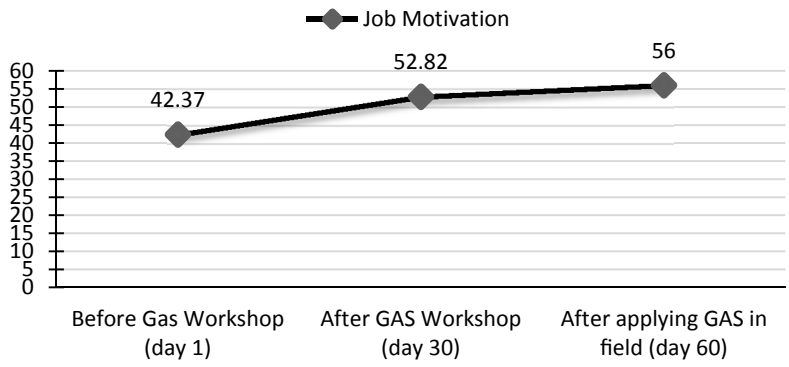

Figure 1. Motivation score during research period (days 1, 30, and 60)

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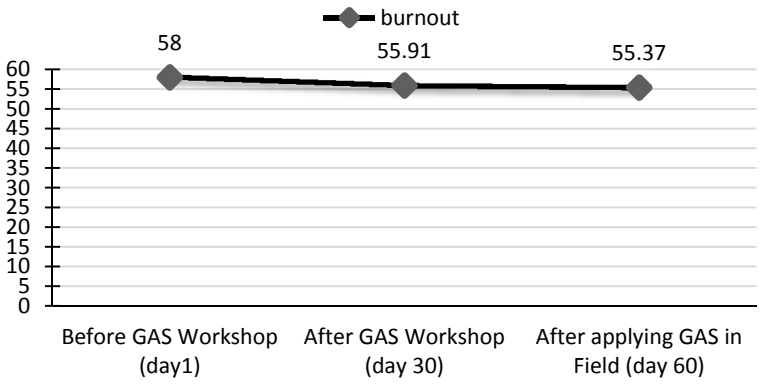

Figure 2. Burnout score during research period (days 1, 30, and 60)

As seen in Table 2, the mean score of job motivation after attending the workshop increased from 42.37 to 52.82 (P<0.001). Also, the mean score of job motivation on day 60, while applying GAS regularly for more than a month in the field, was 56, which was significantly higher than the job motivation before attending the workshop (P<0.001). Cohen's effect size was calculated to be 0.556.

Tables 3 and 4 demonstrate the total and dimensional burnout scores of occupational therapists before intervention at the end of the workshop and after more than one month of regular application of the GAS for children's rehabilitation in clinical practice.

As demonstrated in Table 3, a significant decrease in emotional exhaustion and depersonalization dimension scores occurred just by the end of the workshop. Table 4 shows that by reaching day 60, the reduction was significant in total burnout scores (P=0.008) as well as each of the three dimensions of emotional exhaustion (P<0.001), depersonalization (P=0.003), and personal accomplishment (P=0.024). Cohen's effect size for the total burnout score was 0.117.

4. Discussion

Results of the present study showed that a short on-the-job training workshop on applying the GAS scale for their clients would increase their job motivation. Using GAS helps occupational therapists measure the benefits of their interventions on the health, function, and participation of children with disability. The average job motivation score of pediatric OTs, which was in the "moderate" range before training, rose to "high" after training. The effect size was 0.556.

The results were in line with the findings of Habibipour et al. in Iran. They used a researcher-made questionnaire to study the effects of applying the goal-setting theory by nurses on their job motivation. In that study, the motivation increased from the "moderate" to the "very high" range [17]. The effectiveness of the present intervention might partly be attributed to providing OTs with a training course that was related to their duties, as suggested by Momanyi et al. [18]. At a survey in Narok County, Kenya, Momanyi et al. asked 237 health workers and 21 health managers about attending in any on-the-job training, the relevancy of those training to their daily work, adequacy of training for improving their knowledge and skills, dealing with their gaps and increasing their job satisfaction. Among the participants, 81.9% re-

Table 2. Job motivation of pediatric occupational therapists before attending the workshop compared to after attending the workshop

Variable	Mean±SD			P
	Before the Workshop (Day 1)	Just at the End of the Workshop (Day 30)	After Applying GAS (Day 60)	
Job motivation scores	42.37±6.73	52.82±8.51	-	<0.001
		-	56±7.59	<0.001

GAS: Goal attainment scaling.

Table 3. Burnout dimension scores and total score of pediatric occupational therapists just before and at the end of GAS workshop

Variables	Mean±SD		P
	Before Workshop (Day 1)	Just After the Workshop (Day 30)	
Emotional exhaustion	24.62±11.11	22.80±10.58	<0.001
Depersonalization	9.31±4.72	8.48±4.66	<0.001
Personal accomplishment	24.05±6.66	24.65±7.28	<0.564
Total burnout score	58±12.86	55.91±14.33	<0.055

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Table 4. Burnout dimension scores and total score of pediatric occupational therapists just before and after 1 month of applying the GAS

Variables	Mean±SD		P
	Before Workshop (Day 1)	After Applying GAS (Day 60)	
Emotional exhaustion	24.62±11.11	20.88±9.86	<0.001
Depersonalization	9.31±4.72	8.40±4.25	0.003
Personal accomplishment	24.65±6.66	26.08±6.63	0.024
Total burnout score	58±12.86	55.37±12.07	0.008

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ceived some kind of on-the-job training and replied that it increased their general motivation. So the researcher suggested that any type of on-the-job training relevant to daily duties, which fills the gap in knowledge and skills of health professionals, might increase their motivation at work [18]. Momanyi's study was not experimental. Some researchers have examined the effects of improving team members' interactions on job motivation. For example, Jungert et al. trained 211 members of the existing banking staff. Their participants were provided with two half a day workshops with facilitators and three self-conducted feedback training sessions. They were trained to support each other's psychological needs of competence, autonomy, and relatedness. The team members were trained to communicate and collaborate more effectively. The effect size of their intervention for increasing job motivation was small, 0.17 for autonomous motivation [19]. So, the effect size of the present intervention on job motivation is more than those of the Jungert et al. study.

The present research showed that motivation continued to increase from day 30 to day 60, although at slower rates. During this period, the participants had the opportunity to continue using the learned skill in practice and also received weekly remembrance prompts to continue using GAS, which both might have a role in continued motivation improvements between days the 30th and 60th days. Note that the participants have already begun to apply the scaling for their clients from the third session of the on-the-job training workshop.

Wajda and Janus studied the perspective of occupational therapists on work-motivating and demotivating factors in Poland. As opposed to the results of the present study, no significant correlation was seen between "being able to observe the effects of therapeutic actions in clients" and "job satisfaction", as reported by the occupational therapist. However, that was a correlational study, not an interventional one [20].

The intervention in the present study led to a statistically significant reduction in emotional exhaustion and depersonalization just by the end of the workshop (day 30). However, the increase in personal accomplishment was not effective until a month later (day 60), when the participants applied the GAS for a longer period.

Other researchers examined the effectiveness of various interventions in reducing health professionals' burnout (mainly physicians and nurses). The interventions were focused on individuals, organizations, or both [21]. Individual-focused interventions consisted of training workshops on different skills, namely coping strategies,

interpersonal skills to increase social support, negative emotion management, communicational skills, relaxation techniques, or cognitive behavioral therapies [22, 23]. Some were only shown to be effective in one of the three domains of burnout. For example, Riall et al. used a pre-test-post-test design for 49 general surgery residents to examine the effects of 12 monthly interactive sessions on team-building skills and mindfulness. According to the Maslach Burnout Inventory General Survey scores in one year, emotional exhaustion had decreased, but depersonalization and personal accomplishment were not changed significantly [24]. In another pre-test-post-test study conducted by Hill et al., the staff of an inpatient alcohol ward in England (19 people) was trained to manage stress at individual, team, and organizational levels in two training days, two weeks apart. MBI scores a month after the end of the intervention showed that personal accomplishment was significantly increased, but emotional exhaustion and depersonalization scores were not changed significantly [25]. This finding is in line with the results of the present study, as significant changes were seen on days 30 and 60 of measurements.

An example of occupational-focused interventions is the "organizational intervention", which was implemented by Dunn et al. to improve physicians' well-being through an internal quality improvement project; they provided efficient office design, high-quality staff and also helped physicians in gaining control over their work environment. So, the physicians were satisfied with the clinical and human aspects of care. MBI was used to measure the effects of their intervention on the physicians' burnout, satisfaction, and physician and organizational health, 2, 3, and 5 years later. They found that emotional exhaustion decreased significantly over the study period (P=0.002) [26].

In this study, burnout decreased a little but was statistically significant. The intervention was not targeted to alter different factors contributing to the therapists' burnout. Many researchers suggested that targeting a broad range of leading factors of burnout by combining individually-focused and occupational-focused interventions could be more effective in reducing burnout among health professionals [22, 27].

It seems that using GAS, which allows therapists to detect the effectiveness of their interventions more precisely, helped in increasing job motivation and reducing burnout in therapists. So, it is suggested to incorporate on-the-job training on applying outcome measurement tools in holistic interventions for improving occupational therapists' mental health.

5. Conclusion

A short on-the-job training course on GAS administration, which helps occupational therapists to observe the effectiveness of their rehabilitation practices in improving different aspects of health and quality of lives of children with disability, would reduce therapists' burnout and improve their mental health.

Positive effects of GAS administration on motivation and burnout in therapists should take into account along with the client benefits for judging the usefulness of GAS.

Study limitations

This research was a quasi-experimental study with a two-month follow-up. An experimental design with a longer follow-up time would provide valuable information about the long-term effects of such an intervention.

Ethical Considerations

Compliance with ethical guidelines

The study was approved by the Ethics Committee of the University of Social Welfare and Rehabilitation Sciences (Code: IR.USWR.REC.1398.058).

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Authors' contributions

Conceptualization and writing–original draft: Yalda Sadeghi and Nikta Hatamizadeh; Investigation, funding acquisition and resources: Yalda Sadeghi; Methodology, writing–review & editing and supervision: Yalda Sadeghi, Nikta Hatamizadeh and Samaneh Hosseinzadeh.

Conflict of interest

The authors declared no conflict of interest.

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