Effect of Balint Group on Burnout and Self-efficacy of Nurse Leaders in China: A Randomised Controlled Trial

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Abstract

**Background:** Burnout is common among nurses and is related to negative outcomes of medical care. This study aimed to explore the effectiveness of Balint group activities in burnout reduction among nurse leaders in a Chinese hospital.

**Methods:** This was a randomised controlled trial with a pre- and post-test. A total of 80 nurse leaders were randomly assigned to either a Balint group (n=40) or a non-Balint group (n=40). Participants in the Balint group completed Balint training for a period of three months. Participants in both groups completed the Maslach Burnout Inventory-Human Services Survey (MBI) and the General Self-Efficacy Scale (GSES) at the beginning and end of the study. Balint group members also completed the Group Climate Questionnaire-Short Form.

**Results:** In the Balint group, 33 participants attended all sessions of the Balint intervention, and in the non-Balint group, all 40 participants completed the study. Analysis of variance with repeated measures demonstrated a statistically significant difference on the MBI subscale of personal accomplishment (F=9.598, \( p=0.003 \)) between the Balint and non-Balint groups. However, there were no significant differences between the groups on the MBI subscales of emotional exhaustion (F=0.110, \( p=0.740 \)) and depersonalization (F=0.75, \( p=0.387 \)), and the GSES (F=0.709, \( p=0.403 \)).

**Conclusions:** Balint group helped reduce burnout among nurse leaders, especially to personal accomplishment.

Background

Nurse leaders perform various important and tedious tasks in clinical frontline work. They need to take care of nursing and management work, and in particular, deal with challenging nurse-patient relationships.

However, mental overload, time shortage, communication difficulties, and perceived loss of control may lead to burnout among nurse leaders [1]. Burnout is a prolonged stress reaction characterized by the following: emotional exhaustion—feeling overwhelmed by job demands and depleted emotional resources; depersonalization—impersonal and detached attitude toward patients; and reduced personal accomplishment—decline in feelings of work competence and achievement [2]. The Maslach Burnout Inventory is used to support the management of healthcare workers in hospitals. Several studies have found high burnout levels and emotional strain among nurses, but few studies have focused on nurse leaders who face more stressors [3].

Negative emotions, frustration, and work stress may reduce nurses’ confidence in their ability to complete tasks and directly damage their self-efficacy. Self-efficacy refers to the degree of an individual’s confidence in completing a certain task using their skills, and indicates the expression of self-confidence in dealing with external challenges [4]. Self-efficacy directly impacts nurses’ work and physical and mental health, and is the most powerful personal resource when coping with stress as it can reduce its negative impact. Some scholars also believe that nurses’ self-efficacy can directly predict their job involvement and burnout as well as psychosomatic problems [5].

A Balint group is a working form that focuses on the professional doctor-patient relationship. Its central content focuses on the clinical professional doctor-patient relationship, helps clinical staff improve their ability to understand patients and effectively deal with their emotions and personality development, alleviates job burnout, and enhances physicians’ sense of self-efficacy [6, 7, 8]. Since Dr Balint first proposed this working method in London, England in the 1950s, it has gradually become a compulsory course in medical education and training in European and American countries [9]. Balint group work was introduced to China by German experts more than a decade ago, and quickly welcomed by clinical workers in various professional fields. This popular phenomenon reflects the general distress of current clinical workers as well as their hesitation and anxiety about the doctor-patient relationship. Previous studies have focused on the training and intervention for doctors, but studies on nurses, who are in closer contact with patients, are limited; there is even lesser research on nurse leaders and the research period is usually short. Therefore, this study aimed to assess the effect of reducing burnout and
improving self-efficacy in nurse leaders before and after the Balint group activities, and to provide theoretical support for implementing psychological interventions for frontline clinical staff.

Methods

Participants and Recruitment

A randomised controlled trial (RCT) study was conducted among nurse leaders in a large general hospital in Beijing, China. The inclusion criteria were: 1) nurse leaders in clinical departments, 2) voluntary participation, and 3) no previous participation in Balint groups. We recruited 80 nurse leaders through advertising. Participants were randomly assigned to either a Balint group or non-Balint group, using opaque random envelopes by a researcher who implements random assignment. The participants were from different specialties, including internal medicine (n=36), surgery (n=30), gynaecology and obstetrics (n=4), paediatrics (n=4), emergency medicine (n=4), ophthalmology (n=1), radiology (n=2), and anaesthesiology (n=2). The nurse leaders were informed about the specific processes of the project and the potential risks and benefits. The sample size was established based on an overall difference in the outcome measure of The Maslach Burnout Inventory (MBI) scores (emotional exhaustion [EE], depersonalization [DP], and personal accomplishment [PA]) between participants in the control and intervention groups, where a sample size of 60 was sufficient to detect a difference in MBI scores [10]. Assuming a dropout rate of 15% throughout the study, the required sample size was determined as 71, with 35 participants in each group.

Before the study began, informed consent was obtained from all participants.

The study was approved by the Peking University People's Hospital Ethics Board (Registration Number 2020PHB151). The study was registered in ClinicalTrials.gov Protocol Registration (ClinicalTrials.gov Identifier: NCT05716828, 16/01/2023).

Measures

Demographic variables

All participants completed a demographic questionnaire that included age, gender, clinical department, marital status, and length of medical service in mean years.

Burnout

Burnout was measured using the Chinese version of the Maslach Burnout Inventory-Human Services Survey (MBI-HSS) [11, 12]. This questionnaire includes 22 items across three domains: emotional exhaustion (EE; 9 items), depersonalization (DP; 5 items), and personal accomplishment (PA; 8 items). The scoring range for each item is 0 (never felt) to 6 (felt every day). The EE subscale evaluates the feeling of excessive emotional stress and exhaustion due to work, which is characterized by mental, emotional, and physical exhaustion. The DP subscale measures unsympathetic and impersonal response to patients, and is regarded as a form of alienation. The PA subscale assesses work-related ability and sense of accomplishment [11]. The score for each subscale is calculated separately and not combined into a single total score. In a previous study, the Cronbach alpha coefficients for the EE, DP, and PA subscales were 0.89, 0.79, and 0.87, respectively [10]. The Cronbach alpha coefficients for the EE, DP, and PA subscales in this study were 0.742, 0.803, and 0.862, respectively.

Self-efficacy

The General Self-Efficacy Scale (GSES) is a 10-item scale used to measure individuals’ overall self-confidence in dealing with different environmental challenges or unprecedented situations. The scale’s mean score is 2.86 [13]. Participants are asked to rate 10 questions by choosing one of four response options: 1 (completely incorrect), 2 (almost incorrect), 3 (relatively correct), or 4 (completely correct). A higher score indicates a higher level of general self-efficacy. The GSES is
widely used in China, and the Chinese version has good reliability and validity. The internal consistency coefficient for the scale was 0.862 in previous research [6, 14, 15]. The internal consistency coefficient in this study was 0.756.

**Group Climate Questionnaire**

The Group Climate Questionnaire-Short Form (GCQ-S) assessed the group climate, using a three-dimensional construct comprising engagement, avoidance, and conflict [16]. The GCQ-S engagement measures the team's self-disclosure and work orientation. The GCQ-S avoidance examines the extent to which individuals depend on other team members or leaders to create and manage team interactions while avoiding taking responsibility for their change process. The GCQ-S conflict measures hostility, including anger, distrust, and rejection. Among these three factors, engagement is most closely related to the processes and results of other groups and individuals, followed by conflict [17].

**Procedure**

The intervention program began in July 2020 and ended in January 2022. Participants in the Balint group completed Balint training for a period of at least three months, which included two lectures and 10 small group discussion sessions held once a month for one hour at a time (on Thursdays from 12 to 1 PM). The 40 participants in the control group were placed on the waitlist for future Balint group sessions but did not receive any intervention in the meantime (We plan to carry out Balint team interventions for participants on waitlist in the next year; in the subsequent trial, we will also use the data from the waitlisted control group). Participants in both groups completed the MBI-HSS and GSES questionnaires, at the beginning and end of the intervention period. The Balint group also completed the GCQ-S. The GCQ-S was administered twice; the first measurement was after the first Balint group activity, and the second after the 10th Balint group activity.

The study's purpose was explained to the participants, and they were informed that participation was voluntary. Figure 1 shows the consort flow diagram.

**Intervention**

Balint group intervention is a standardized training model, which is introduced in Germany [18]. Each group is a closed group including one to two group leaders and six to twelve participants, with sessions lasting 60 to 90 minutes. At the beginning of the first group session, leaders explain the basic norms and expectations for how members relate to each other during a Balint group activity; the members are asked to commit to respect these, to ensure there is a safe talking space for all group members and the leaders, allowing the group to work openly and effectively. The main expectations include: maintaining confidentiality, being respectful and non-judgmental, speaking on one's own behalf, providing an opportunity for all members to speak, avoiding offering advice or solutions, and reaching an agreement about time, place, membership, and how to work together. This is called maintaining the frame [19].

Before each meeting, all participants were invited to prepare a challenging nurse-patient encounter case. At the beginning of the meeting, one presenter briefly described the case, and the others decided whether to choose it as the topic for that day. During the meeting, the presenter had to: (1) spend 5 to 10 minutes describing a nurse-patient relationship that is disturbing, frustrating, confusing, or uneasy; (2) answer short factual questions from other members; (3) step back from their chair, listen to, and reflect on the discussions of other group members; (4) focus on their own feelings when listening; and (5) return to the group and analyse their reflections. Other team members needed to: (1) explore the doctor-patient relationship in the given case; (2) share what would happen to them if they were that doctor or patient; (3) introspect themselves and use their imagination to explore the unacknowledged parts of the case; (4) pay attention to the differences among team members; and (5) generate new opinions and ideas on the case. The team leader needed to: (1) establish a clear agreement to create and maintain a safe group environment; (2) maintain the framework; (3) protect the care provider and other members of the group from falling into judgment and irrelevant discussion; (4) provide reasonable and timely intervention to encourage reflection, introspection, empathy, and open communication; and (5) participate in the development of the group to ensure that it follows the Balint task to explore the doctor-patient relationship [18].
The discussion emphasized the participants’ emotions and attitudes; medical technology was avoided, and they were not required to provide specific ways to solve problems. Participants were asked to consider their reactions, or the emotions and thoughts of a particular nurse. They were expected to consider the nurse-patient relationship from the nurse’s and patient’s perspectives [20]. Figure 2 shows the typical process of the Balint group session.

Data analysis

IBM SPSS Statistics version 26 (IBM, Armonk, NY, and the US) and SAS 9.4 (SAS Institute, Cary, NC) were used to conduct all analyses. Categorical data utilized a chi-square or Fisher’s exact tests. After the end of the Balint group activity, we used an analysis of variance for repeated measures to compare the differences between the Balint and control groups, as we expected highly correlated values. We also calculated the effect sizes (Cohen’s d). According to the criteria proposed by Cohen, a value of 0.2 denotes a small effect, 0.5 a moderate effect, and 0.8 a large effect.

Results

Demographic characteristics

In total, 80 female participants were enrolled in this study (40 in the Balint group and 40 in the non-Balint group). In the Balint group, 33 participants completed all the interventions, and in the non-Balint group, 40 completed the experiment. In the former, 7 participants dropped out of the study; 3 stopped participating due to conflict with work timings and 4 withdrew due to change of workplace. There were no significant differences in general demographic characteristics between the Balint and non-Balint groups (Table 1).

Comparison of burnout and GSES scores in the Balint and non-Balint groups

After the Balint group activity, a statistically significant difference was found in the score on the MBI-PA subscale (95%CI: 8.28, 11.12, df =1, f=9.598, p=0.003) between the Balint and non-Balint groups. However, there was no statistically difference between the groups on the MBI-EE (df=1, F=0.110, p=0.740), MBI-DP subscales (df=1, F=0.757, p=0.387) or the GSES (df=1, F=0.709, p=0.403) (Table 2).

Comparison of group climate before and after the Balint group activity

Paired t-test results demonstrated no statistically significant differences regarding group climate before and after the Balint group activity. The scores for engagement (t = 0.336, p =0.739) and avoidance (t = 0.218, p=0.829) decreased after the Balint group activity but the difference was not statistically significant. The score for conflict (t = 0.066, p =0.948) increased after the Balint group activity, but was also not significantly different (Table 3).

Table 1. Demographic characteristics of the participants.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Balint group (n=40)</th>
<th>Non-Balint group (n=40)</th>
<th>df</th>
<th>t-test/X²</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (mean years (SD))</td>
<td>47 (7)</td>
<td>46 (7)</td>
<td>78</td>
<td>0.493</td>
<td>0.700</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>35</td>
<td>37</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>5</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length of medical service (mean years (SD))</td>
<td>27.4 (6.7)</td>
<td>27.0 (6.5)</td>
<td>78</td>
<td>0.493</td>
<td>0.799</td>
</tr>
<tr>
<td>Length of education (mean years (SD))</td>
<td>15.6 (0.6)</td>
<td>15.3 (0.8)</td>
<td>78</td>
<td>1.709</td>
<td>0.091</td>
</tr>
</tbody>
</table>

Table 2. Comparison of the Balint and non-Balint groups’ scores on the MBI and GSES.

<table>
<thead>
<tr>
<th>Before Balint group activity</th>
<th>After Balint group activity</th>
<th>df</th>
<th>t</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MBI-EE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before</td>
<td>32.42±11.71</td>
<td>32</td>
<td>0.336</td>
<td>0.739</td>
</tr>
<tr>
<td>After</td>
<td>28.30±7.73</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MBI-DP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before</td>
<td>8.88±7.14</td>
<td>32</td>
<td>0.066</td>
<td>0.948</td>
</tr>
<tr>
<td>After</td>
<td>6.18±3.74</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MBI-PA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before</td>
<td>26.91±10.26</td>
<td>32</td>
<td>0.218</td>
<td>0.829</td>
</tr>
<tr>
<td>After</td>
<td>31.15±4.60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GSES</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before</td>
<td>1.97±0.73</td>
<td>32</td>
<td>0.336</td>
<td>0.739</td>
</tr>
<tr>
<td>After</td>
<td>2.24±0.23</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3. Comparison of group climate before and after the Balint group activity in the Balint Group.

Discussion

Balint group training helps clinical staff better understand patients, detect and deal with their emotions, develop their personality, improve their self-efficacy, and alleviate their job burnout [7]. This study explored the effect of Balint group training on improvement in nurses’ self-efficacy and alleviation of job burnout.
The results showed that compared with the non-Balint group, participants in the Balint group had improved scores on the MBI-PA subscale, which assesses work-related ability and sense of accomplishment. However, scores on the MBI-DP (unsympathetic and impersonal response to patients) and MBI-EE subscales (feeling of excessive emotional stress and exhaustion due to work) and sense of self-efficacy had not ameliorated. Furthermore, after 10 Balint group sessions, the group climate had not changed significantly.

Seven participants in the intervention group dropped out the study. Our Balint group was set up in the main hospital district, and some participants were assigned work in other hospital districts during the experiment. They did not have time to participate in Balint group activities, and dropped out of the study because of changes in place and time of work; the dropouts were not due to the Balint group intervention. This is a typical phenomenon in a Chinese hospital. Staff members in the control group also had changes in their working areas, but this did not affect their participation in the study. A previous study reported a similar situation that participants always tend to have declining attendance [21].

The current results showed that nurse leaders’ average GSES scores improved after the Balint group intervention, but the difference was not statistically significant. Previous studies had reported similar findings [8]. In Rabin’s research programme, which found significant improvement in self-efficacy, the Balint group activities lasted for more than a year [22]. The formation and development of self-efficacy is usually a relatively long process. Our research suggests that improving self-efficacy through Balint group activities may require a longer intervention period, which also provides scope for future research. In the Balint group sessions, cases of nurse-patient relationships were reported. Patients may feel that nurses’ work was superfluous because of their incomprehension of the medical process, making nurses doubt their work’s significance and increasing their frustration. After a case was presented, the team members talked about their feelings if they were in that situation, from the perspectives of nurses, managers, patients, and their families. The case provider observed the team members’ work. In this process, the case provider gained new understanding of patients’ and their families’ behaviour, and the care provider’s emotions changed accordingly. At the same time, it also impacted the future work style.

**Burnout**

This study confirmed that Balint groups alleviate burnout among nurse leaders. This finding is consistent with previous studies that demonstrated that Balint groups are effective interventions for doctors and nurses [23]. In Stojanovic-Tasic et al.’s study, 21.4% and 7.1% of the non-Balint and Balint group participants, respectively, had a statistically significant perception of low personal accomplishment. Stojanovic-Tasic et al.’s study lasted for a year, while our study was conducted over three months. This suggests that a Balint group training with a relatively short range can also improve personal accomplishment [24]. Another study by Bar-Sela et al. reported similar results. They found that Balint group improved communication abilities of residents and contributed to their feelings of self-accomplishment as doctors [8]. Compared with other intervention methods that pay more attention to emotional regulation, Balint group can inspire participants to identify different perspectives to understand and manage difficult working relationships and challenging patient communication [25, 26]. Therefore, we found no significant improvement in the negative emotions, but participants’ sense of accomplishment was elevated.

Our study revealed that Balint groups did not significantly increase nurses’ EE and DP. This was slightly different from previous studies. Huang et al.’s study found that compared with the control group, EE and DP improved in the Balint group, but there was no significant improvement in PA, which may be due to the differences in the sample. The participants in Huang et al.’s study were resident physicians in their first year of residency, and the Balint group intervention lasted longer [27]. Furthermore, Popa-Velea et al. also found that EE and DP in the Balint group improved. The study was conducted over two years and the participants were physicians. This suggests that improvement in EE and DP may require a longer course of Balint intervention [28].
Group climate is an important measure of the group therapy effect [29, 30]. The GCQ can be used as a predictor of the long-term efficacy of group therapy [31]. In our study, there was no significant difference before and after the Balint group in the GCQ scores. This is consistent with previous research. A study by Maurizio et al. showed similar findings: after the Balint group activities for nurses and physicians, the subscale scores for the GCQ did not change. In Balint group activities for caregivers, the GCQ subscales of engagement and conflict improved but the avoidance subscale did not. A possible reason is that caregivers attended meetings more frequently than nurses and physicians [32].

A previous survey showed that Balint training can achieve positive results even with less motivated participants in group activities [33]. A study examined the development of group climate in short-term (20 sessions) and long-term (80 sessions) psychodynamic group psychotherapy, and found that from session 10 to session 18, scores for the GCQ avoidance and conflict subscales decreased in the short-term groups while long-term groups displayed the opposite pattern [30]. Compared with this, our study was relatively short, and not sufficient to discover changes in various factors in the group atmosphere.

Generally, the results showed that Balint group activity reduced nurse leaders' burnout. The mechanism of the Balint group's effectiveness is analysed as follows: conventioneers provided varying feelings and opinions on the cases. Participants were required to observe and reflect on their behaviours, difficulties, and setbacks, analyse the causes of problems, gain an understanding of cases from different angles, improve their self-awareness ability, and be able to identify, judge, and understand their complex emotions as well as of the patients in many aspects. While finding and solving predicaments, nurses learned to affirm themselves.

**Limitations**

This study had a small sample size and all participants were from a single hospital. They were not representative of the entire nurse leader population. The Balint group intervention period was short. We intend to remedy these deficiencies in future studies.

**Conclusion**

A three-month Balint group intervention helped burnout reduction among nurse leaders in a Chinese hospital. No significant improvement was found in nurses' self-efficacy. In the Balint group, there was no significant change in group climate before and after the intervention.

The research results provide directions for better and more efficient medical education programs using Balint activities. Balint group can guide nurses to become more patient-central by reducing burnout level [34].

**Declarations**

**Ethics approval and consent to participate**

This research was sanctioned by Ethics Review Committee of Peking University People's Hospital in accordance with ethical protocol. Prior to the commencement of this inquiry, participants were told of the purpose and methodology of this study, got informed consent from the participants, and were aware that their participation was voluntary. The participants were also told that the researcher would answer their questions and keep their information confidential. This study confirms that all methods were performed in accordance with relevant guidelines and regulations.

**Consent for publication**

Agree to publish: 'Not applicable'.

**Availability of data and materials**
Data sets used and / or analyzed during the current study may be obtained from the appropriate authors upon reasonable request. If someone wants to request the data from this study, he can contact correspondence author: QuShan (qu1983shan1120@outlook.com)

**Competing interests**

Contention for interests: The authors have no competitive interest in this study.

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**Authors’ contributions**

QS and RL are responsible for all the research and conceptual design; data analysis and interpretation; and is a major contributor to writing manuscripts. XZ is responsible for research design, research data collection, and research manuscript revision. ZM participated in research design and implemented of the Balint Group intervention. SX participated in research design and implemented of the Balint Group intervention. KQ is responsible for organizing Balint Group and participated in data collection and analysis. BX participates in data collection and analysis. KF provides guidance on research design and manuscript writing. QS is also responsible for research and design, data statistical analysis, and research manuscript revision. The author(s) read and approved the final manuscript.

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**References**


Figures
Figure 1

The consort flow diagram of this study
Figure 2

The typical process of the Balint group session