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Psychological Assessment and Psychological First Aid Psychoeducation to Enhance Fundamental Knowledge in Assisting Disaster Survivors to Pusat Pengendalian Operasi Penanggulangan Bencana Kabupaten Garut

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Abstract: Kabupaten Garut is an area with a high level of disaster vulnerability, causing communities to frequently experience both physical and psychological impacts in the aftermath of disasters. On the other hand, the effectiveness of the Pusdalops PB BPBD Garut response remains limited due to the placement of members that do not yet align with their personality characteristics, as well as insufficient psychosocial capacity when dealing directly with survivors. To address these issues, this intervention was designed using two approaches: a DISC personality assessment to allocate members into four work clusters (logistics, decision-makers, communicators, and data assessors), and Psychological First Aid (PFA) psychoeducation to enhance knowledge and self-efficacy. The program involved 23 participants through DISC assessment, PFA training, and a pretest–posttest evaluation using the Wilcoxon test. The results showed significant improvements across all variables, including PFA knowledge ($Z = -3.649$; $p = 0.000$), self-efficacy in responding to survivors ($Z = -2.496$; $p = 0.013$), self-efficacy in recognising survivors ($Z = -2.858$; $p = 0.004$), and emotional regulation self-efficacy ($Z = -2.550$; $p = 0.011$). These findings highlight that personality-based role placement and PFA psychoeducation are effective in strengthening psychosocial preparedness and can serve as a relevant intervention model for disaster-prone regions such as Kabupaten Garut.

Keywords: Psychoeducation, Psychological First Aid (PFA), Disaster Management.

INTRODUCTION

Kabupaten Garut is one of the areas in West Java with a very high level of disaster vulnerability. Based on the disaster risk assessment document for Garut Regency, West Java Province, for 2018–2022, this high potential for disasters is influenced by geographical and geological conditions, namely its location at the meeting zone of the Indo-Australian and Eurasian plates. The interaction of these plates causes dynamic tectonic activity that can trigger earthquakes and even tsunamis if they occur at sea with a magnitude of more than 6 on the Richter scale (Badan Nasional Penanggulangan Bencana, 2017). In addition, the topographic

structure consisting of lowlands, hills, and mountains bordering long rivers also increases the risk of landslides and floods. Garut was even recorded as the region with the second-highest disaster risk score in Indonesia based on the 2015 Indonesian Disaster Proneness Index (Badan Nasional Penanggulangan Bencana, 2025). This condition confirms that disasters are a systemic and recurring threat in the region.

The potential for disasters in Garut is exacerbated by the presence of active volcanoes such as Mount Guntur and Mount Papandayan. Overall, various threats such as floods, landslides, tornadoes, earthquakes, and other geological hazards create a complex risk pattern. This situation demands strong preparedness from the local government, disaster management agencies, and the community. Given that disasters not only cause physical impacts such as environmental damage or loss of property, but also substantial psychological consequences, their management requires a holistic approach, as defined in the Garut Regent Regulation

Psychological aspects are a crucial concern because disasters often drastically alter lives, causing the loss of routines, jobs, social support, and even community roles. Makwana (2019) emphasised that individual's post-disaster can experience a variety of psychological symptoms, including severe stress, deep grief, trauma, substance abuse, and adjustment problems that hinder social functioning. While these psychological impacts are individual, their management cannot be separated from the capacity of the community and the systems that support them. This aligns with the WHO's view that prevention and preparedness play a crucial role, often even more crucial than response once a crisis has already occurred (Bahadori et al., 2015).

The Garut Regency Badan Nasional Penanggulangan Bencana (BPBD), as the primary disaster management agency, has strategic responsibility for coordinating prevention, preparedness, emergency response, and rehabilitation and reconstruction (Peraturan Bupati Garut, 2021). Operationally, the BPBD established Pusat Pengendalian Operasi Penanggulangan Bencana (Pusdalops PB), which plays a vital role as the primary facilitator in data collection, information presentation, and resource coordination during the pre-disaster, emergency response, and post-disaster phases. However, field findings indicate that while Pusdalops PB is relatively effective in handling physical and logistical aspects, addressing the psychological aspects of victims has not been systematically implemented.

To understand these dynamics, the study employed Bronfenbrenner's ecological approach, which views humans as a multi-layered system, from the microsystem to the macrosystem (Özdoğan, 2011). At the microsystem level, interviews with earthquake victims in Pasirwangi revealed that they experienced anxiety, sleep disturbances, fear of staying home, and symptoms of post-disaster trauma. Assessments using the SRQ and DASS also revealed various indications of psychological disorders, such as severe depression, anxiety, psychotic symptoms, substance use, and other emotional and mental disorders. These findings suggest that victims require more targeted psychosocial interventions, not just logistical assistance.

At the mesosystem level, interviews with the Head of Bidang Penanganan Darurat BPBD and members of Pusdalops PB revealed that psychological treatment is hampered by a lack of professional mental health resources. Furthermore, the lack of assignments that align with the personalities of personnel creates chaos in the field, hinders communication, and affects the emotional stability of officers. Furthermore, Pusdalops PB members are also vulnerable to stress because they deal directly with victims experiencing high levels of emotional distress.

At the ecosystem and macrosystem levels, a literature review of the role of the BPBD and disaster potential in Garut indicates that the region's policy structure and geographic characteristics require the BPBD to have stronger psychosocial capacity. Historical disaster data even indicates a high annual frequency of disasters, so interventions should not focus solely on technical management but should also include strengthening the mental and emotional capacities of both victims and staff.

The needs analysis revealed two key issues requiring intervention. First, the Team Pusdalops PB requires increased capacity to provide initial psychological support to victims.

Therefore, Psychological First Aid (PFA) is an appropriate approach because it is non-intrusive and designed to provide emotional stabilisation, support, and hope in the post-crisis phase (Ruzek et al., 2007). Hobfoll proposed five basic principles of PFA: safety, calm, self-efficacy, connectedness, and hope, to provide practical guidance for officers when dealing with victims (Wang et al., 2024).

Second, task assignments that fail to consider members' personalities can lead to work inefficiencies. Therefore, the use of the DISC assessment, which groups personality into four main types: Dominance, Influence, Steadiness, and Conscientiousness, can help determine more appropriate role placement (Beedu, 2021). With proper mapping, members can be placed in positions that align with their behavioural tendencies, resulting in more effective coordination and reduced risk of emotional stress.

Overall, strengthening the capacity of the Pusdalops PB through a combination of PFA psychoeducation and DISC personality assessments is expected to improve the effectiveness of disaster management, particularly in addressing the psychological aspects of victims. This intervention not only helps accelerate the recovery process but also strengthens community resilience in areas with high geographical and geological disaster risks, such as Garut Regency.

METHOD

The intervention methods used in this activity are designed to improve the capacity of members of the Pusdalops PB BPBD Garut in handling disaster victims, through two main approaches: DISC-based personality mapping and Psychological First Aid (PFA) psychoeducation. The implementation plan is designed to ensure that participants not only gain increased knowledge but also are more effectively positioned according to their respective work characteristics.

1. Goals and Objectives of the Intervention

The general objective of the intervention is to improve the basic capabilities of the Pusdalops PB in dealing with victims of natural disasters. Specifically, this activity targets two things: (1) dividing Pusdalops PB BPBD Garut members into groups based on DISC personalities, so that role allocation becomes more efficient, and (2) increasing basic knowledge regarding initial psychological treatment, especially through PFA.

The benefits of the intervention include increased teamwork efficiency according to personality characteristics, as well as increased ability of officers to provide initial support that has the potential to positively impact the victim's emotional condition in the long term.

2. Participants

Participants consisted of active members of the Pusdalops PB with varying educational backgrounds, gender, and length of service. The total number of participants represented a diverse range of work experience, ranging from one year to over 20 years. All participants followed administrative procedures, including completing an informed consent form and a personal data form (name, highest education, occupation, and length of service).

3. Assessment Procedures

An initial assessment is conducted before training, beginning with completing an informed consent form. Two types of evaluations are then conducted:

a. Knowledge Improvement (Pre-test and Post-test)

Participants' knowledge of Psychological First Aid was measured through a pre- and post-test using the same material. Questions covered basic understanding of PFA principles, the limitations of the volunteer role, common emotional responses to victims, and common misperceptions about PFA. The difference between pre- and post-test scores was used to indicate knowledge improvement after the training.

b. Self-efficacy and Emotional Regulation

Participants' confidence in dealing with disaster victims was measured using a scale of 0–10. The assessment included their ability to deal with victims, recognize their emotional state, and manage their emotions while on duty. Emotional regulation was also measured using the same scale to determine participants' psychological preparedness for field situations.

4. Data Analysis

Data were analyzed using SPSS. The choice of statistical test depends on the distribution of the data:

- a. t-test used if the data is normally distributed
- b. Wilcoxon test used if the data is not normally distributed

This ensures that the measured increase in knowledge and self-efficacy can be analyzed appropriately according to the characteristics of the data.

5. Activity Evaluation

Participants were also asked to complete an evaluation form to assess the quality of the activity. The evaluation covered eight indicators using a Likert scale ranging from 1–5 (strongly disagree to strongly agree). The aspects assessed included:

- a. suitability of materials to needs,
- b. attractiveness of presentation,
- c. clarity and readiness of the facilitator,
- d. effectiveness of aids,
- e. use of supporting materials,
- f. relevance of the material for fieldwork, and
- g. suitability of training schedule.

This evaluation provides an overview of the program's acceptability and potential for future improvements.

RESULTS AND DISCUSSION

Results

Psychological test

The psychological testing was conducted on the same day as the psychoeducation session. At the time of the activity, the high potential for disaster due to heavy rainfall required BPBD to be on alert for possible flooding and landslides. Due to time constraints, the entire series of activities had to be carried out in one full day. Therefore, the personality assessment using the DISC method was scheduled for one hour before the psychoeducation session began.

Participants were initially asked to complete an informed consent form and provide personal information before taking the psychological test. The DISC was a paper-based test, with each participant asked to mark the option they considered most appropriate and the option they considered least appropriate. Initially, some participants appeared confused and provided more than one answer for a specific number. However, after receiving assistance and help from a friend who better understood the instructions, the participants were able to continue working successfully. Some participants also asked questions about vocabulary they considered less common. Overall, participants showed high enthusiasm, were willing to follow instructions, and took the test seriously. The time provided was deemed sufficient to complete all items.

The scores are calculated to determine the most dominant dimension (D, I, S, or C) on the mask/public self chart. The Mask/Public Self chart is used because the context of the

analysis is how individuals adapt to work. Once the most dominant personality is determined, it is classified into task groups.

- D = Decision Maker
- I = Communicator
- S = Logistics Support
- C = Surveyor / Assessor Data

Based on the DISC test results, individuals with the Influence (I) type were assigned the role of communicator. This is because they are friendly, persuasive, energetic, and easily build relationships with others. These traits enable them to calm victims, quickly build trust, and act as effective liaisons between the PB operations centre and the community. Meanwhile, individuals with the Dominance (D) type were directed to be decision-makers. They tend to be assertive, quick, focused on results, and willing to take risks. This character is well-suited for emergencies that require leaders who can make quick decisions under pressure while also directing a team effectively. Participants with the Steadiness (S) type were better suited to handling logistics because they are stable, patient, consistent, and enjoy routine. Logistics tasks require precision and patience, and require individuals who can work calmly behind the scenes. Furthermore, their harmonious nature helps minimise potential conflict in the aid distribution process. Individuals with the Conscientiousness (C) type were positioned as data surveyors, given their meticulous, analytical, detail-oriented, and rule-abiding nature. This capability is essential to ensure accuracy in data collection, process information systematically, and maintain the validity of reports that form the basis for the distribution of official aid.

Psychoeducation

Table 1. Intervention Analysis Results

Variables	Z	p-value	Information
Knowledge	-3,649	0.000	Significant
Confidence in facing victims	-2,496	0.013	Significant
Confidence in recognizing the victim	-2,858	0.004	Significant
Emotional regulation beliefs	-2,550	0.011	Significant

$p < 0.05$ = there is a significant difference between pre-test and post-test.

The Wilcoxon Signed-Rank Test results showed a significant difference between pre-test and post-test scores for all variables studied. For the knowledge variable, a Z value of -3.649 with $p = 0.000$ was obtained, indicating a significant increase in participants' knowledge after participating in the psychoeducational intervention. For the self-efficacy aspect, all dimensions also showed significant changes. Self-efficacy in dealing with victims increased ($Z = -2.496$, $p = 0.013$), as did self-efficacy in recognising victims ($Z = -2.858$, $p = 0.004$). For the emotional regulation dimension, the analysis results showed a significant increase ($Z = -2.550$, $p = 0.011$). Overall, these results indicate that the psychoeducational intervention provided was effective

in increasing participants' knowledge and self-efficacy skills, both in dealing with, recognising, and regulating emotions related to situations related to victims.

The results of this activity were based on an evaluation that measured the extent to which the activity met its objectives. The goal of this activity was to improve basic knowledge in dealing with natural disaster victims among members of Pusdalops PB. The activity evaluation was conducted through two main approaches: increasing knowledge and increasing self-confidence. This increase in knowledge can be attributed to several factors, including the structured delivery of material, the use of case studies that allow participants to more easily imagine real-world situations, and learning methods that encourage active involvement. During the psychoeducation session, participants appeared to show high interest, asking questions when encountering concepts they did not understand, discussing with group members, and proactively explaining the discussion material to their peers. This indicates that participatory learning methods can contribute to increased understanding of the material.

The second evaluation focused on self-efficacy in carrying out their roles. Participants were asked to rate their confidence in three areas: (1) confidence in dealing with natural disaster victims, (2) confidence in recognising natural disaster victims, and (3) confidence in managing emotions. This increase in self-efficacy was likely due to a better understanding of PFA principles, particularly after participants learned how to approach victims through the case studies provided. Although the psychoeducational intervention provided has been shown to significantly improve participants' knowledge and self-efficacy, direct practical experience remains a potential strength for future intervention outcomes. Real-life disaster situations often have dynamics that cannot be fully replicated through classroom instruction. Therefore, developing advanced field-based programs, such as more intensive disaster response simulations, could be an additional strategy to deepen participants' confidence in dealing with real-life situations. However, the implementation of field training must consider ethical and safety considerations, as direct engagement with real victims cannot be conducted without appropriate protocols and conditions.

Table 2. Participant feedback

Aspect	Results
Relevance of material to needs	4.4
Presentation of interesting material	4.6
The facilitator's presentation is easy to understand	4.6
Good facilitator preparation	4.6
Effective tools	4.5
The materials provided are helpful	4.6
Application of material in everyday life	4.6
Schedule as per	4.4

Description: The results are the average scores of participants in each aspect. Participant scores range from 1: very inappropriate to 5: very appropriate.

Activity evaluation was conducted by measuring participants' reactions to the program. The evaluation used a questionnaire about the program, where participants scored between 1 and 5, with 1 being very inappropriate and 5 being very appropriate. The results represent the average score for each participant. Based on the program evaluation form (see Table 11),

participants generally responded positively. They considered the psychoeducational materials to be appropriate for their needs. They also responded positively to the materials provided; the booklet appeared to be quite helpful. Regarding the facilitator's delivery of the materials, participants perceived them as engaging, easy to understand, and well-prepared. Positive reactions were also noted regarding the schedule, although improvements could be made. The schedule was influenced by Garut's landslide emergency situation at the time of implementation, requiring adjustments to the schedules of the busy and alert participants. However, participants also assessed that the materials were applicable in their daily lives. When compared with the relevance score, it is possible that participants feel that this PFA can be implemented, but there are doubts because perhaps the stimulation that occurs in class is different from the situation when a disaster occurs.

Discussion

Garut Regency is known as one of the regions in Indonesia with a high level of disaster vulnerability, often dubbed a "miniature disaster." Its vulnerable geography and soil structure make this region frequently subject to earthquakes, landslides, and floods. This situation demands high levels of preparedness from the local government, the community, and members of Pusdalops PB. As the agency responsible for disaster management, BPBD plays a crucial role, not only in handling logistics and infrastructure but also in building community resilience. However, the primary focus in the field has been directed more towards the physical aspects, while the psychological aspects of affected communities and Pusdalops PB members are often neglected.

A needs analysis conducted before the program's implementation revealed that disaster-affected communities in Garut frequently experienced symptoms of trauma, anxiety, and post-disaster stress. Furthermore, Pusdalops PB as the frontline of disaster management, also faced significant challenges in the field. They frequently faced chaotic conditions, limited resources, and pressure from victims demanding urgent needs. This situation not only caused stress for members but also potentially compromised the effectiveness of disaster management. Interview data showed that some members admitted to hesitating to respond to victims experiencing emotional distress due to their lack of adequate psychosocial skills. This indicates the need for interventions that not only increase knowledge but also build members' practical skills so they can provide basic psychological support to victims while maintaining their own resilience.

The relationship between victims and members extends beyond the interaction of providing physical assistance. Victims need a sense of security and emotional support, while members need the skills to respond to these needs while also avoiding emotional distress. When these needs are not met, tensions can escalate and impact overall coordination. This situation demonstrates that disasters are not just physical events but also tests of community resilience.

The intervention activities were then designed in the form of psychoeducation on Psychological First Aid (PFA) and personality assessment using DISC. PFA was chosen because it is an initial psychological assistance method that can be administered by volunteers without requiring a professional background in mental health (World Health Organisation, 2011). The goal is for members to provide immediate emotional support after a disaster, minimise the risk of long-term trauma for victims, and guide victims to access further assistance if needed. Meanwhile, the DISC assessment is conducted to help map members' personality tendencies, which can form the basis for assigning roles during disaster response, for example, into logistics teams, decision-making teams, and teams that interact directly with victims. This strategy is expected to reduce the potential for internal conflict and lower stress levels among members in the field.

The program's schedule was adjusted due to the potential for a new disaster due to heavy rainfall. This forced BPBD to remain vigilant and limit the program to one full day. Nevertheless, the entire program was successfully implemented, with a one-hour DISC

assessment conducted before the psychoeducation session. During the process, some participants experienced initial confusion during the DISC process, but after assistance, they were able to complete it successfully. Participants responded positively to the program, demonstrated by their enthusiasm, willingness to ask questions, and active participation in group discussions.

The evaluation results showed that PFA psychoeducation successfully increased basic knowledge. Factors influencing this success included interactive learning methods, the use of case studies, and high participant motivation. In addition to increasing knowledge, psychoeducation also contributed to increased self-efficacy. This is in line with research by Kılıç and Şimşek (2019), Jonson et al. (2017), and Aliakbari et al. (2022), which showed that brief disaster management training with PFA elements can improve self-efficacy.(Alfiatur et al., 2024).

Improving basic knowledge about Psychological First Aid (PFA) and increasing the confidence of some members in dealing with and recognising disaster victims can be a first step in addressing this community issue. Hobfoll outlined five important principles that form the basis for implementing Psychological First Aid (PFA). (Wang et al., 2024)The first principle is promoting a sense of safety, ensuring the victim is in a physically and emotionally safe environment. The second principle is promoting calm, which aims to reduce panic and extreme emotions. The third principle, promoting self- and collective efficacy, emphasises strengthening self-confidence and the group's ability to cope with the situation. The fourth principle, promoting connectedness, focuses on rebuilding social connectedness. And the final principle is promoting hope, fostering hope and a positive outlook for the future.

The third and fourth principles (promoting self- and collective efficacy) of Psychological First Aid (PFA) complement each other in strengthening community resilience. By helping individuals and groups regain their self-confidence and ability to actively participate in recovery, PFA fosters cooperation and solidarity among community members. This strategy aligns with the concept of empowerment in Rapaport's theory, which emphasises the importance of harnessing individual potential to strengthen collective capacity (Jason, 2016). Thus, strengthening member capacity through the PFA program, emotional regulation training, and a personality-based assignment system is an essential step in building community resilience in disaster-prone areas like Garut.

The evaluation results indicate that the assignment of Pusdalops PB groups based on personality cannot be implemented directly because the effectiveness of such assignments can only be tested when a disaster occurs that requires intensive field coordination. However, advocacy interventions regarding the results of the group assignments have been carried out. Currently, conditions in Garut Regency are safe with no disasters requiring emergency response. However, literature indicates that community and organisational resilience can be enhanced through appropriate role placement according to individual capacity and character. Appropriate placement allows for more efficient workflow, smoother coordination, and faster response when emergencies occur, thus maintaining organisational preparedness even in the absence of a disaster.

The evaluation results indicate that the division of Pusdalops PB groups based on personality cannot be implemented directly because the effectiveness of such a division can only be tested when a disaster occurs that requires intensive field coordination. Currently, conditions in Garut Regency are safe with no disasters requiring emergency response. However, literature shows that community and organisational resilience can be enhanced through appropriate role placement according to individual capacity and character. The use of DISC in companies has been shown to improve communication, reduce workplace conflict, increase acceptance of diverse behaviours, increase productivity, build team spirit, and enhance team effectiveness.(Christy, 2018)

CONCLUSION

Conclusion

Based on the results of the program implementation, it can be concluded that the intervention consisting of Psychological First Aid (PFA) psychoeducation and DISC personality assessment made a positive contribution to improving the basic capacity of members of the Garut Regency Pusdalops PB in dealing with disaster victims. PFA psychoeducation was proven effective in increasing knowledge, as well as increasing self-efficacy in dealing with and recognising victims and regulating emotions. These findings confirm the results of previous research regarding the effectiveness of PFA training in increasing self-confidence in the context of disaster management.

On the other hand, the DISC assessment provides an initial overview of personality tendencies that can potentially be used as a basis for more effective role allocation, such as among logistics teams, decision-makers, communicators, and data assessors. Although the implementation of personality-based role allocation cannot yet be directly implemented and its effectiveness cannot be evaluated because there has not been a disaster situation requiring intensive coordination, the results of the assessment and initial advocacy have provided an important foundation for improving the member placement system in the future. The literature also shows that role assignments that are appropriate to individual characteristics can improve communication, reduce conflict, increase productivity, and strengthen team effectiveness.

Overall, this intervention confirms that strengthening members' capacity in disaster management cannot rely solely on technical skills, but also requires psychosocial support, increased self-efficacy, emotional regulation skills, and appropriate role structure based on personality characteristics. This effort is a strategic step in building community resilience in disaster-prone areas like Garut Regency, as well as strengthening organizational preparedness to respond to disasters more effectively, humanely, and sustainably.

Suggestion

Suggestions for future activities should not only focus on psychoeducation but also include practical training programs that include simulations of PFA implementation in the field and emotional regulation skills training. Training should be designed to provide participants with opportunities to experience scenarios that approximate actual disaster situations, allowing them to develop self-confidence and emotional preparedness. While material-based psychoeducation is effective in increasing knowledge, it is insufficient to develop the practical skills participants need in the field. Given the high emotional stress experienced by participants while on duty, more comprehensive follow-up training is needed. Such training will not only improve participants' readiness to provide psychological support to victims but also help them maintain their personal mental balance, enabling them to carry out their duties more effectively and sustainably. Furthermore, a sustainable program is needed that is not just a one-off activity but is integrated into the BPBD member development system. Psychological assessments should also be conducted regularly, including assigning members roles based on personality, so that field assignments are more aligned with each individual's psychological capacity.

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