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Opportunities And Challenges: Leveraging ICT-Integrated Counseling To Address The Mental Health Needs Of Disaster-Affected University Students

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ABSTRACT
Information and communication technology (ICT) has significantly transformed the delivery of mental health services, enabling creative methods to address behavioral and emotional issues. This review article focuses on the potential of ICT-integrated counseling to support the mental health and well-being of university students, particularly those affected by disasters. The author reviewed previously published articles in journals and provided up-to-date knowledge on the common article that presents ICT-integrated counseling: concepts and frameworks, effectiveness of ICT-integrated counseling, evaluation of ICT-integrated counseling programs for students, challenges in implementing ICT-integrated counseling, ICT-integrated counseling in academic settings, and future directions. The writing process took 6 months (between February 2024 and August 2024). The author searched databases such as Scopus index journals, Google Scholar, PubMed, Z-Library, Publon, MedLine, and JSTOR and obtained original and review articles published in various journals and textbooks. Conclusively, ICT-integrated personal and social therapy is a groundbreaking approach for addressing behavioral problems and emotional turmoil in adolescents affected by disasters. These therapies can increase the efficacy and accessibility of mental health care by integrating digital technologies and culturally appropriate processes. It is essential to confront the challenges and ethical concerns associated with ICT-based counseling as technology advances, ensuring that vulnerable populations receive the necessary assistance to thrive. By addressing these critical elements, the review demonstrated the ability to provide a comprehensive understanding of the potential benefits and limitations of integrating ICT into mental health services for disaster-affected university communities.

keywords: ICT-integrated counseling, Disaster-affected students, Mental health interventions, Behavioral and emotional outcomes, Academic settings

1. INTRODUCTION

In recent years, the delivery of mental health services has been completely transformed by the emergence of information and communication technology (ICT), which has produced creative methods for dealing with behavioral and emotional issues [1]. An important development for Mindanao State University–Iligan Institute of Technology (MSU-IIT) students who have witnessed the devastation caused by disasters is the incorporation of ICT into social and personal counseling. Mindanao is regularly hit by armed wars, natural disasters, and other crises, which have a significant psychological impact on its residents. Due to their extreme vulnerability, students frequently suffer from emotional discomfort, anxiety, depression, and behavioral issues that affect their ability to perform in both social and academic contexts. Timely and efficient mental health interventions are

necessary for these problems [2].

To improve the accessibility and provision of counseling services, ICT-integrated personal and social counseling makes use of digital platforms such as telecommunication tools, virtual support systems, and mobile applications. ICT-based counseling, in contrast to traditional approaches, can get over logistical, geographical, and stigmatization-related obstacles, allowing students to get mental health support no matter where they are or what their circumstances are with tools like interactive self-help courses, text-based therapy, and video conferencing, ICT provides a flexible and individualized method of treating emotional and behavioral issues [3, 4].

Since many MSU-IIT students come from disaster-prone areas where typical counseling services might not be available in an emergency, this is extremely important for them.

ICT use in counseling supports international initiatives to update the provision of mental health services, especially in catastrophe situations. [5] highlight how successfully ICT-based interventions work to support psychological health and resilience in crisis-affected populations. ICT-integrated therapy for MSU-IIT students also supports the cultural norms of peer support and group coping that are common in Filipino society. These interventions can develop a comprehensive support network that is suited to the requirements of disaster survivors by fusing digital innovations with conventional counseling principles [6, 7].

Examining how ICT-integrated personal and social therapy affects emotional distress and behavioral issues in students who have experienced disasters is the goal of this study. The research attempts to add to the expanding body of information on the use of technology in mental health treatment by assessing the results of various interventions. The review will shed light on the particular difficulties experienced by academic communities affected by disasters and help shape the creation of scalable, culturally relevant mental health initiatives for at-risk groups. Additionally, it will fill the knowledge gap regarding the effective and efficient use of ICT in counseling. Other professions and clients who might require one will also benefit from it.

2. METHODOLOGY

2.1 Review Parameters

The author reviewed previously published articles in journals and provided up-to-date knowledge on the common article that presents ICT-integrated counseling: concepts and frameworks, effectiveness of ICT-integrated counseling, evaluation of ICT-integrated counseling programs for students, challenges in implementing ICT-integrated counseling, ICT-integrated counseling in academic settings, and future directions. The writing process took 6 months (between February 2024 and August 2024). The author searched databases such as Scopus index journals, Google Scholar, PubMed, Z-Library, Publon, MedLine, and JSTOR and obtained original and review articles published in various journals and textbooks. The author used keywords such as "*ICT-integrated counseling," "Disaster-affected students," "Mental health interventions," "Behavioral and emotional outcomes," "Academic settings."* The author extracted relevant information from the articles, bibliographic review, systemic reviews, and case reports.

3. DISCUSSION

3.1 ICT-Integrated Counseling: Concepts and Frameworks

ICT-integrated counseling blends digital delivery techniques with conventional psychological concepts. It makes use of well-established theoretical frameworks, including as

- **Cognitive-Behavioral Theory (CBT):** The widely accepted psychological paradigm known as cognitive-behavioral theory (CBT) holds that ideas, emotions, and behaviors are all reciprocal. It implies that people's emotional and behavioral reactions are greatly influenced by how they perceive certain circumstances. To promote better emotional control and adaptive behavior, cognitive behavioral therapy (CBT) attempts to

recognize and alter maladaptive thought processes. To alleviate stress-related diseases and improve mental health, cognitive-behavioral therapy (CBT) assists people in shedding avoidant and safety-seeking habits that hinder the self-correction of false beliefs. CBT is frequently included in ICT tools, which use online platforms and apps to reinforce adaptive behaviors and reorganize negative thought patterns [8].

- **Biopsychosocial Model:** The biopsychosocial model integrates biological, psychological, and social aspects to provide a holistic understanding of health and illness. In 1977, psychiatrist George Engel presented it as a substitute for the biomedical paradigm, which only considered biological processes [9].
- By highlighting the interaction of biological, psychological, and social elements, this framework promotes culturally aware ICT interventions that are customized to meet the particular requirements of Filipino students [10].
- **Stress-Diathesis Model:** The Stress-Diathesis Model describes how environmental stresses and an individual's inclination (diathesis) interact to cause mental health conditions or physical ailments. The concept was first created about schizophrenia, but it has since been used to describe several physiological and psychological disorders. By offering organized support systems that act as a buffer against psychological vulnerabilities, ICT-based therapies assist lessen the consequences of stressors[11, 12].

These frameworks demonstrate how ICT can be used to effectively address the behavioral and emotional needs of pupils affected by disasters.

3.2 Effectiveness of ICT-Integrated Counseling

3.2.1 Emotional Distress and Behavioral Difficulties in Calamity Victims

ICT-integrated counseling has been a game-changer in the field of mental health treatment, especially for populations dealing with emotional and behavioral issues brought on by disasters. Its capacity to close access gaps, give prompt assistance and offer adaptable, individualized interventions account for its efficacy [13, 14]. This section examines how well ICT-based therapy works for students who have experienced disasters, like those at MSU-IIT, in resolving behavioral issues, mental distress, and related results. Natural disasters, armed conflicts, and pandemics are examples of calamities that have a broad psychological influence, resulting in behavioral issues and emotional discomfort.

- **Emotional Distress**

Anxiety, sadness, and post-traumatic stress disorder are common emotional distress symptoms, whereas aggression, withdrawal, or poor social relations are examples of behavioral issues. According to [15] students are especially susceptible to these difficulties because of their developmental stage and reliance on stable environments for both academic and personal progress. Disaster exposure has made students even more vulnerable, underscoring the need for specialized mental health care[16].

ICT interventions have been shown in numerous studies to be beneficial in reducing the emotional distress experienced by catastrophe survivors. Digital resources including virtual cognitive behavioral therapy programs and mobile health apps have been demonstrated to dramatically lower anxiety and depressive symptoms [17]. By encouraging self-regulation and flexible coping mechanisms, ICT interventions help student populations develop emotional resilience [18].

- **Behavioral Improvements**
  - **Enhanced Emotional Regulation**

Student can better identify and control their emotions with the use of ICT tools such as online Cognitive Behavioral Therapy (CBT) platforms and mindfulness applications. For instance, students are empowered to monitor their emotional states and use coping methods in real-time through the use of digital mood monitors and biofeedback programs [19].

- **Improved Self-Management and Accountability**
  Goal-setting and progress-tracking tools are integrated into many ICT platforms, giving users a sense of accountability and accomplishment. Digital cognitive behavioral therapy applications, for example, have demonstrated efficacy in assisting student in self-regulating their behaviors, such as lowering substance usage or controlling anger management issues [20].
- **Reduction in Maladaptive Behaviors**
  ICT therapies for depression and anxiety frequently concentrate on substituting healthy behaviors for unhealthy coping mechanisms (like avoidance). Behavioral changes include reduced rumination, enhanced problem-solving skills, and diminished dependence on negative coping strategies like substance misuse [21]
- **Increased Engagement in Positive Activities**
  Interactive assignments and online psychoeducation modules encourage students to partake in activities like exercise, writing, or social contacts that enhance well-being. Measurable gains in social engagement and physical activity have been observed in behavioral activation programs provided via mobile apps [22].
- **Academic and Social Outcomes**
  ICT therapy also affects social connections and academic performance. These therapies help students concentrate better on academics and interact meaningfully with teachers and peers by lowering psychological distress.

3.3 Evaluation of ICT Counseling Programs for MSU-IIT Students Affected by Calamities

To make sure that the treatments are successful and have an impact, it is essential to assess how well ICT counseling programs address the emotional and behavioral consequences of kids who have experienced tragedies. Key elements of assessing such programs are listed below:

3.3.1 Standardized Psychological Assessments:

Tools like the Beck Depression Inventory (BDI) [23], Generalized Anxiety Disorder 7 (GAD-7) [24], and the Impact of Event Scale (IES) [25] can be used to measure emotional distress before and after counseling sessions. These tools help in tracking changes in symptoms of depression, anxiety, and trauma.

- To examine behavioral issues including aggression, withdrawal, or mood swings, use behavioral assessment instruments like the Strengths and Difficulties Questionnaire (SDQ) or the Child Behavior Checklist (CBCL).
- Interview the students who took part in ICT counseling in a semi-structured manner. This offers qualitative information about their opinions, experiences, and the program's perceived efficacy.
- Set up focus groups, either in person or virtually, to talk about how satisfied people are with the ICT counseling program overall. Students might address common problems or difficulties they have encountered while therapy in groups.

3.3.2 Psychometric Evaluation

Make sure the ICT platform's counseling techniques and psychological resources are appropriate and valid for the student body. This could entail modifying current resources to accommodate MSU-IIT students' cultural and contextual realities [26, 27].

3.4 Challenges in Implementing ICT-Integrated Counseling

The integration of ICT into counseling services offers a vital tool for addressing the mental health needs of Mindanao State University–Iligan Institute of Technology (MSU-IIT) students affected by calamities. However, this approach is not without challenges. These challenges can be categorized under three major areas: technological barriers, privacy and ethical concerns, and user engagement.

- **Technological Barriers**
  Accessing ICT-integrated counseling is significantly hampered by technological constraints for MSU-IIT students, especially those from disaster-affected areas. Disasters may cause many students to experience power

outages and internet connectivity issues, making online resources unavailable during crucial times. The digital divide may also be exacerbated by pupils from low-income families not having access to smartphones, laptops, or reliable Wi-Fi. Some students' low levels of digital literacy can make it difficult for them to use counseling platforms efficiently, even if they have the required gadgets. Furthermore, counseling sessions may be interrupted by technological problems like app or software bugs, which lowers the dependability of these services during emergencies [28, 29].

- **Privacy and Ethical Concerns**

  Providing ICT-based therapy to disaster victims raises additional privacy and ethical concerns. Concerns about data breaches or illegal access may make students hesitant to divulge private information online. They may be deterred from getting help if they are unsure that their emotional and personal revelations will remain private. Furthermore, disasters frequently result in increased stress and worry, which might make it more difficult for students to understand and give their consent for the storage or use of their data. Maintaining professional boundaries presents ethical challenges for counselors as well since students may try to get aid through channels other than those that have been agreed upon, including private messaging apps or social media accounts [30].

- **User Engagement**

  One particular problem is keeping students who have been impacted by disasters involved. Students may find it challenging to prioritize or commit to online counseling sessions due to the emotional toll and trauma of disasters. Since counselors cannot use nonverbal clues to gauge emotional states, the absence of in-person engagement in ICT-integrated counseling might also make it more difficult to build rapport. Additionally, students may become less motivated as a result of the impersonal character of digital platforms, especially if they are uncomfortable or unfamiliar with them [31] (Ngwu et al., 2021). Online counseling may seem insufficient to students who have experienced serious trauma or have complicated emotional needs, which further reduces their motivation to participate [32].

  To solve these problems and meet the unique needs of MSU-IIT students affected by disasters, a tailored approach is required [33, 34]. Providing digital literacy workshops, ensuring platform reliability, and increasing access to technology through collaborations or subsidies are all necessary to overcome technological obstacles. By strengthening data security measures, clarifying informed consent processes, and maintaining moral standards, privacy issues can be minimized. In order to improve user participation, counselors can adopt hybrid models that incorporate trauma-informed, culturally sensitive strategies and, when practical, combine in-person sessions with ICT resources. These actions will make it easier and more efficient for students to receive ICT-integrated counseling when needed.

3.5 ICT-Integrated Counseling in Academic Settings

ICT-integrated counseling is an innovative approach that leverages information and communication technology (ICT) to address the mental health and well-being of students in academic settings. By incorporating digital tools into traditional counseling practices, institutions can enhance the accessibility, efficiency, and effectiveness of mental health services for their diverse student populations [35, 36]. This approach is particularly valuable in responding to the increasing prevalence of stress, anxiety, and other mental health challenges among students.

- **Core Components of ICT-Integrated Counseling**

  ICT-integrated counseling in academic settings typically uses a range of digital tools and platforms, such as video conferencing, chatbots, mobile applications, and online therapy portals. These technologies enable students to access counseling services online by eliminating time, place, and schedule constraints [37, 38]. For instance, mobile applications that offer tools like mood monitoring, guided mindfulness exercises, and reminders

for treatment sessions can provide students with ongoing support. Video conferencing technologies make Real-time, in-person talks between counselors and students possible, which helps establish a hybrid paradigm that maintains the human connection of traditional counseling while using the convenience of technology [39].

- **Benefits of ICT-Integrated Counseling in Academia**
  ICT-integrated counseling has a lot to offer educational institutions and their students. it makes mental health therapies more accessible particularly to students who might be reluctant to seek in-person counseling due to stigma or practical constraints [40, 1]. it makes scalability possible, allowing educational establishments to take on more students without increasing costs or physical infrastructure. digital platforms are flexible, students can ask for help whenever it is most convenient. Students with demanding academic schedules will particularly benefit from this. Additionally, ICT tools' data analytics capabilities allow counselors to better customize interventions by providing them with crucial information on the behavior and growth of their kids.
- **Challenges and Considerations**
  ICT-integrated counseling provides advantages, but some disadvantages must be addressed to maximize its effectiveness. Data security and privacy are important concerns because students must feel secure knowing that their personal information will be kept confidential [41]. ICT-based services may be further limited by disparities in access to technology and digital literacy, especially for students from disadvantaged backgrounds. Additionally, some students may find digital platforms less engaging or helpful for addressing complex emotional needs, preferring in-person interactions [42, 43, 44].

3.6 Future Directions

Institutions must adopt a comprehensive and inclusive strategy if ICT-integrated counseling in academic settings is to realize its full potential. This means investing in reliable and user-friendly technology, providing training in digital literacy, and implementing robust data security protocols. Hybrid methods that combine online resources with in-person counseling can suit a variety of student preferences while ensuring that no student is left behind. Furthermore, regular feedback from students and counselors can guide the continuous improvement of these services, making them more adaptable to the shifting needs of the academic community. Through ICT-integrated therapy, educational institutions have a ground-breaking opportunity to support the mental health of their students. By using this approach, educational institutions may create more accessible, effective, and inclusive mental health treatment programs that help students thrive both academically and personally.

4. CONCLUSION

A revolutionary method for resolving behavioral issues and emotional distress in among students impacted by disasters is ICT-integrated personal and social therapy. These treatments can improve the efficacy and accessibility of mental health care by utilizing digital tools and culturally aware procedures. It is crucial to address the difficulties and moral dilemmas surrounding ICT-based counseling as technology develops further to guarantee that vulnerable groups get the support they require to flourish.

5. RECOMMENDATION

- Regularly give students behavioral checklists to keep tabs on behavioral changes and the impact of therapy on students' day-to-day functioning.
- Conduct focus groups regularly to determine how well the ICT platform satisfies student demands and to identify any obstacles to participation.
- To gauge the long-term impacts of ICT-based therapies, use a longitudinal study design in which follow-up evaluations are carried out three, six, and twelve months following counseling.
- Assess the tools' psychometric qualities to make sure they offer reliable, consistent, and culturally relevant

ratings.

- Establish a rule requiring the creation of an online counseling platform so that all students, particularly those impacted by disasters, can obtain mental health treatments from a distance.
- Make ICT-based training mandatory for all MSU-IIT mental health emphasizing data security, cultural sensitivity, and virtual therapy.
- MSU-IIT ought to set up a scheme that allows students to borrow the gadgets they need or provide subsidized internet connection to individuals who are in need, particularly during disasters.
- MSU-IIT should set up strict data privacy policies in accordance with the Data Privacy Act of 2012 to protect student information shared during counseling sessions. Provide students with workshops on digital literacy to ensure they are at ease using ICT-based counseling tools and platforms.
- To ensure timely access to mental health care after the disaster, integrate ICT-based counseling into the university's emergency response and disaster recovery strategies. For behavioral and emotional recovery following a tragedy, develop a monitoring and assessment system that includes student involvement, program assessments, and outcome indicators.
- Regularly interact with students or use an online poll to gather feedback on ICT counseling services to guarantee continuous improvement. Ensure that all students use secure, effective platforms by allocating university funds for the development and upkeep of ICT counseling infrastructure.
- Establish a pilot program at MSU-IIT, and if it proves effective, collaborate with other educational establishments to extend the ICT counseling model to additional students. A public awareness campaign highlighting the importance of mental health, particularly in the aftermath of disasters, and the potential role of ICT in addressing these needs should be developed by MSU-IIT.
- Conduct longitudinal and mixed-methods studies to comprehensively evaluate the long-term impact, cost-effectiveness, and user experience of ICT-integrated counseling programs for university students, especially those affected by disasters.
- Develop and implement evidence-based strategies to ensure the sustainable integration of ICT-based mental health services within the university's overall student support infrastructure, including considerations for cultural adaptation, ethical data management, and workforce development.

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