

## EMERGENCY MEDICAL TRANSPONDER FOR TRAUMA SURVIVORS

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### Abstract

Injuries are a leading contributor to increased mortality and impairment across the globe. The majority of the currently available strategies for the control of injuries concentrate either on primary prevention, which refers to the avoidance of injuries or the reduction of their intensity, or on secondary prevention, which refers to the provision of appropriate medical reaction to improve treatment and, as a result, minimize damage following an injury. In many situations, the provision of timely emergency treatment and the quick transfer of wounded victims from the scene of an accident to a health care facility can save lives, decrease the prevalence of short-term impairment, and significantly improve the long-term outcomes. Sadly, in many areas of the globe, there is not the infrastructure in place to be able to provide even the most fundamental of medical services. In the year 2000, a group of international specialists who were present at a special conference that was organized by the World Health Organization (WHO) in Geneva reached the consensus that there is an urgent requirement to improve both the quality and availability of prehospital trauma treatment networks all over the world. They suggested a collaboration that would determine the essential strategies, instruments, supplies, and organizational structures required to establish effective and customizable prehospital care systems for wounded individuals all over the globe. This would allow them to accomplish their goal of achieving this objective. The completion of this objective is represented by this document. It focuses on the most potential interventions and components of prehospital trauma care systems, specifically those that require minimal training and comparatively little in the way of apparatus or materials. Specifically, it focuses on those that require minimal training. No matter the number of resources that are at one's disposal, these components have the potential to and should already constitute the basis of any emergency care system. Once these components have been implemented, additional components may be introduced at the discretion of local, regional, or national managers and policy-makers, contingent on the availability of resources and a clear comprehension of the probable costs and benefits of each intervention. This may be done at any level, from the local to the national level. In addition to that, this document contains recommended organizational strategies for instruction, record-keeping, supervision, and responsibility.

**Keywords:** Emergency Medical, Trauma Survivors

### INTRODUCTION

Ambulance-based emergency medical services (EMS) are relatively infrequent in India as well as in many other low- and middle-income countries (LMICs). Over half of the world's population resides in regions that do not have access to official emergency medical services (EMS)<sup>1-3</sup>. Victims of traffic accidents in low- and middle-income countries (LMICs) are generally transferred from the location of the accident to a hospital by spectators and passing vehicles. In India, surveillance at medical facilities indicates that the majority of casualties are carried to hospital by vehicles or the police. Ambulances account for less than 5% of transport, which suggests that they are ineffectual and that the primary benefits

of emergency medical services likely derive from quick transfer. The benefits of emergency endotracheal intubation, intravenous drug therapy, fluid resuscitation, and spine immobilization have been called into question by an increasing number of studies<sup>19–21</sup>. In fact, studies show that trauma victims transported by advanced life support ambulances have similar or worse outcomes than basic life support, likely as a result of interventions that are poorly performed and which delay transfer to definitive care.

The World Health Organization (WHO) recommends that low- and middle-income countries (LMICs) educate informal responders, such as commercial transporters, to provide basic first aid and quick transportation to hospitals. This is in recognition of the limited evidence supporting advanced training for first responders. Training of industrial transporters, authorities, community leaders, and others in low- and middle-income countries has been documented in several studies. (Ghana, Madagascar, Iraq and Uganda, among many others). Advocacy attempts have paid very little attention to the second essential component of EMS, which is the collaboration of community responders to shorten the time it takes to transport patients. Recent advancements in smartphone technology have made synchronized transportation groups more prevalent in low- and middle-income countries (LMICs), despite the fact that in the past, sophisticated communication networks were considered to be expensive components of the most advanced systems. In point of fact, there have been a number of attempts to establish a "layperson-EMS" by utilizing peer-to-peer or dispatcher-coordinated networks of lay responders. All of these attempts have been unsuccessful. For instance, in recent years, businesses in India that provide transportation services, such as Uber in Hyderabad and Wagon Cab in Delhi, have introduced emergency travel alternatives. In a similar vein, some services have attempted to construct networks of pre-existing private paramedics that are coordinated by dispatchers. (AMBER Health and LifeHover38 in Delhi, Dial in Mumbai, Stan Plus, Sahai and Call Ambulance in Hyderabad).

An examination of the webpages pertaining to these services reveals that very few of them have persisted after their original launches. This suggests that layperson emergency medical services may encounter legal, medical, and societal obstacles, all of which need to be addressed in a methodical manner. Researchers from the University of Chicago and the Indian Institute of Technology (IIT) Delhi started a project in 2017 that was funded by the National Institutes of Health in the United States to investigate the viability of creating a coordinated system of lay first-responders in Delhi, India, in the hopes that it will improve the population level outcomes of traffic accidents in that city. One of the goals of the project was to gain an understanding of how trauma patients presently gain access to medical treatment as well as the obstacles that prevent such a system from being standardized into a centralized layperson emergency medical service (EMS). We were particularly interested in gaining an understanding of the following aspects from the point of view of frontline stakeholders, policymakers, and subject matter experts: (i) who helps victims, (ii) how are they transported to hospitals, (iii) what discourages good Samaritans from offering assistance, (iv) how can these barriers be addressed, and (v) could a layperson-EMS improve outcomes? In this article, we describe our findings and discuss some recommendations for Emergency Medical Services (EMS) strategy in Delhi and other contexts like it.

## OBJECTIVE OF THE STUDY

- To conduct research on the fact that injuries are one of the leading causes of mortality and impairment around the globe.
- To conduct research on we present our findings and offer recommendations for EMS policy in Delhi and other contexts that are comparable.

## RESEARCH METHODOLOGY

This multisite mixed-method research is a component of a larger multinational multisite initiative that aims to understand the relationships between culture, help-seeking behavior, and trauma rehabilitation for sufferers of Gender-Based Violence (GBV). All of the participants for all of the stages were collected by the investigators in their respective local locations by using posters in the community organizations that provide women with services related to harassment and word of mouth. All of the participants in the survey were over the age of 18, and they were literate in their native tongue. All of the people who took part in this research at any point indicated that they were female and that they had survived some kind of domestic violence or sexual assault. The Clinical Ethnographic Narrative Interview (CENI) procedure was used throughout the entire study to conduct the narrative interview, which was then used to capture all of the qualitative data. (See instruments below). All phases of the study involving the sexual assault survivors were approved by the Institutional Review Board at the University of Michigan (HUM HUM00144780), and the Japanese site was approved by the University Of Tokyo Graduate School Of Medicine Ethical Committee (11756–2). One sample consisted of 19 sexual assault US survivors between the ages of 18 and 26. Twelve of the women were currently enrolled in an undergraduate program at a four-year institution, and seven of the women were graduates of the program. Thirteen said they were of the Caucasian race, three said they were of African American or Black descent, and three said they were of Asian descent. A total of 8 women disclosed that they had been abused as children, 16 women disclosed that they had engaged in unwelcome sexual activity while they were undergraduates, and 18 women disclosed that they had engaged in other kinds of unsolicited sexual interaction while they were undergraduates. The second group consisted of 24 Japanese women chosen at random from various domestic violence support centers located throughout the greater Tokyo region. They ranged in age from 36 to 59, and the majority of them were parents. Every single participant disclosed experiencing some form of interpersonal violence. (Emotional, physical, or sexual).

The ages of the US GBV survivors varied from 20 to 81 years, and approximately one half of them were parents. There were eighteen women who identified as being of Caucasian descent, two women who identified as being of African American descent, and one woman who identified as being of Asian descent. More than one form of GBV had been encountered by fifty percent of the survey population; ten individuals had been sexually abused, ten had been physically abused, and nine individuals had been abused in their homes. The second collection of statistics came from twelve Irish people who had survived domestic violence. The Irish people who made it through the ordeal were all parents and ranged in age from

20 to 64; the majority of them came from remote parts of Ireland. Eleven of the women self-identified as being of the Caucasian race, while the lone Black woman did so. Although the majority of the women had resided overseas, the majority of them had done so in England, and all but one of the women had been born in Ireland. Every single one of the twelve participants had a history of either childhood violence (emotional, physical, or sexual), or interpersonal abuse.

The examples from the United States and Japan are mentioned above. The ages of the thirteen witnesses of gender-based violence in Greece varied from 22 to 60 years old. All of the people who took part were born and raised in Greece; the majority of them had children and had been victims of abuse in the home, but none of them had ever sought assistance from an official health or social care organization for the violence they were experiencing at the time. The majority of them resided in a metropolitan region, but others spent a considerable amount of time in remote parts of Greece. The majority of them held jobs, and their levels of schooling varied from intermediate school all the way up to postgraduate training. The 12 Turkish people who managed to escape the attack varied in age from 25 to 40. The majority were metropolitan dwellers who held at least a bachelor's degree and had children no older than five years old. More than half of the population had personal experience with some form of psychological, physical, or sexual aggression.

### **Instruments for Qualitative Analysis**

Clinical Ethnographic Narrative Interview (CENI): We carried out semi-structured interviews in accordance with the CENI procedure. The CENI makes use of experiencing activities in order to shed light on the cultural, societal, and individual meanings that are attributed to the healing process following GBV. Among the experiential activities are drawing a social network map, a bodily map, an emergency, and performing a card organizing activity. The format of the CENI makes it easier to produce narratives, and the interviewer's job is to make the production of those narratives easier by providing attentive attention without offering interpretation of the information being gathered.

The primary objectives of this article are to establish and assess the Trauma Recovery Rubric (TRR), the acronym standing for "Trauma Recovery Rubric." The ultimate version of the Trauma Recovery Roadmap (TRR) contains the following seven trauma recovery pathways: avoiding the trauma (normalization and minimizing), dealing with the recollections and emotions associated with the trauma (consumed, shutdown, and surviving), recovering control and health, and moving on with one's life. (Seeking integration and finding equanimity). Each period of recovery includes a set of criteria that define one of the six categories of trauma recovery. These criteria are as follows: defining the trauma; achieving a balance between feelings, body, intellect, and behavior; accepting the effect of the trauma; having a comprehensive view of oneself; independently functioning; and engaging with a supportive social network. The evaluations included both individual categories and overall sums. (the scale and scoring are included in Table S1).

## Quantitative Measures

The Physicians Health Questionnaire 8 (PHQ8) melancholy rating and the PTSD Checklist for the DSM5 (PCL-5) screener were used to evaluate the difficulties encountered during the recovery process. The eight-item variant of the Patient Health Questionnaire (PHQ-8) is a reliable diagnostic instrument that assesses melancholy symptoms in the general population. The PHQ-8 does not include the suicidal ideation item that is included in the PHQ-9, which makes it appropriate for use in survey settings. On a measure that ranges from 0 (meaning "not at all") to 3 (meaning "nearly every day"), respondents are prompted to rate the severity of their symptoms over the course of the most recent two weeks. This contributes to a cumulative number that can fall anywhere between 0 and 24. It has been recommended that a clinical cut-off number of less than 10 be used to identify possible melancholy. If you achieve 10 or greater on the PHQ8, it is likely that you are suffering from severe melancholy. In our research, the dependability of the PHQ8 varies from 0.87 to 0.94 according to the Cronbach's alpha.

The PTSD Checklist for DSM-5 (PCL-5) is a measurement tool that has been extensively adopted and confirmed for the purpose of determining the prevalence and intensity of symptoms associated with post-traumatic stress disorder (PTSD). The PTSD categories found in the DSM-5 are reflected in each of the 20 questions that make up the measure. On a measure that ranges from 0 (meaning "not at all") to 4 (meaning "extremely"), respondents are asked to evaluate how disturbed they have been by the symptoms over the past month using a 5-point response scale. This results in a total score range that can go anywhere from 0 to 80. It has been suggested that a clinical cut-off value of between 31 and 33 can be used to identify the presence of possible PTSD. The Cronbach's alpha reliability of the PCL-5 in our research varies from 0.94 to 0.96.

Indicators of recovery include having a feeling of coherence and growing past the stressful experience. The Orientation to Life Questionnaire (SOC-13) is a widely used measure that assesses the sense of coherence, which is a concept at the heart of the salutogenic model of health and is argued to be an important determinant of successfully coping with stressful life situations. The SOC-13 consists of 13 items about how people view their life, measuring the three main components of a sense of coherence: comprehensibility, manageability, and meaningfulness. On a semantic differential scale with seven points and two anchoring reactions tailored to each item, participants evaluate the degree to which they concur or disagree with a statement using the scale. A cumulative number anywhere from 13 to 91 out of 100 indicates a better level of consistency, with larger scores indicating even greater levels of coherence. Cronbach's alpha for the SOC-13 in our sample ranged from 0.82 to 0.85. Posttraumatic growth was measured using the Posttraumatic Growth Inventory (PTGI), which is a 21-item self-report instrument that is used to assess psychological growth following a traumatic event. The Personal Transformation and Growth Inventory (PTGI) consists of five subscales: New Possibilities (for example, "Established a new path for my life"), Relating to Others (for example, "A sense of closeness with others"), Personal Strength (for example, "Knowing I can handle difficulties"), Spiritual Change (for example, "I have a stronger religious faith"), and Appreciation for Life ("Appreciating each day"). Participants in this research were asked to identify for each of the statements the degree to

which this change happened in their life since their most distressing or upsetting unwelcome sexual experience while they were undergraduates. This experience could have been anything from an unwanted sexual encounter to a sexual assault. Values can range from 1 to 126 on the PTGI, with larger values indicating greater perceived development. On the Post-Traumatic Growth Inventory (PTGI), the items range from 1 (I did not experience this change as a result of my crisis) to 6 (I experienced this change to a very large degree as a result of my crisis). Our cohort had an alpha of 0.90 according to Cronbach.

## **DATA ANALYSIS**

The formulation of this criteria came about as a result of an examination of the processes by which trauma survivors recuperate after experiencing the trauma in samples taken from two very different research locations. (19 sexual assault survivors in the US and 24 domestic violence survivors in Japan). These two specialists, LS and SK, were brought together as a member of an expert group by the principal author. They came up with a rough outline of what they called "trauma recovery pathways." An investigation was carried out so that the investigators could carry out an analysis to capture the crucial recovering regions and patterns. After the qualitative coding themes had been established, an intensity matrix was constructed in order to record the number of times each theme occurred. A scoring matrix was constructed with passageways running across the top (which were used to identify the themes) and domains running down the side (which were used to define the theme's parameters).

### **Instrumental Improvements and a Focus on Interrater Agreement**

The construction of the rubric moved on to the next level, which consisted of refining it and achieving interrater consistency. In this particular investigation, the qualitative descriptions of the same survivors were classified by the researchers, and they obtained concurrence with their evaluations. This investigation was carried out by KK and CB, two unbiased researchers from the United States and Greece respectively. The qualitative datasets included a total of 36 interviews conducted in accordance with the procedure for the Clinical Ethnographic Narrative Interview (CENI). The investigators gave each aspect of the conversation a score out of ten and then compiled those numbers into an aggregate rating for the survivor. Following each round, we went back and improved the descriptions of the criteria. For our intercoder correlation, we used both the category scores and the total scores.

This procedure proceeded for a total of five sessions until we reached a point where the aggregate ratings for all four conversations were consistent with one another. McDonald and his associates were successful in swaying our decision to use correlation as our measure of choice. They stated in their paper as follows: "Quantitative researchers have sometimes made the mistake of evaluating qualitative research reports using the standards of quantitative research, expecting (interrater reliability) IRR regardless of the nature of the qualitative research." As a consequence of this, reporting statistical measures may be enticing for qualitative researchers who believe that evaluators who are inexperienced with their methods will respond to IRR as an indication of reliability; however, for many methods,

reliability measures and IRR do not make sense. Consequently, reporting statistical measures may be appealing for qualitative researchers. (p. 72:5). We proceeded with our research and continued to make improvements until we reached a level of interrater consistency of the total ratings that was 100%.

### **Integration of Multiple Methods**

The next step was for investigators from Japan, the United States, Greece, and Turkey to apply the TRR to the CENI narrative interview databases from their respective countries. The material was collected in the investigators' original language, and they worked with that. The researcher was given the task of rating each participant for each category, and the results of this rating were to be recorded in online Qualtrics. The raters' comments about the comprehensive assessment of the survivor's rehabilitation, the cultural characteristics they observed as they applied the criteria to survivors from their culture, and any difficulties or commentary about the precision and usefulness of the TRR tool were all recorded in the Qualtrics form. The senior author took the TRR information and added it to the rest of the quantifiable data for each participant. Then, the senior author calculated the total number of points that each participant received on the TRR. The TRR evaluations, recovery challenge indicators (post-traumatic stress disorder and melancholy), and recovery indicator scores were then put through quantitative analysis. (posttraumatic growth and sense of coherence). After adding up the survivors' overall results on all of the quantitative instruments, we classified them according to the type of trauma recovery pathway that was demonstrated in their interviews.

In order to establish the interrelationships between the variables, we conducted a correlational analysis. We used the analysis of variance (ANOVA) to find out whether there were disparities in melancholy scores, PTSD scores, or TRR scores between the countries. We also utilised t-tests to investigate whether or not there was a significant difference in the mean scores of individuals who met potential melancholy or PTSD categories versus those who did not meet these criteria. An examination of the relationship between general TRR ratings, recovery markers (feeling of coherence and psychological development), and recovery difficulties was carried out with the help of regression analysis. (PTSD and depression). In the end, an effect size computation was performed in order to establish the magnitude of the influence that the TRR score had on the PTSD or melancholy ratings of the complete population.

## **RESULT**

### **Instrument Development**

An independent examination of the original data indicated that the degree to which trauma sufferers in both the United States and Japan had achieved the condition of trauma assimilation varied greatly. We conducted an analysis of the qualitative data to determine "how" the trauma sufferer integrated their experience into their lives, which is what we mean when we say "trauma integration." During the course of this research, we were able to identify a number of distinct subcategories. Some of these subgroups included individuals who downplayed the effect that the traumatic event had on their lives, those who described

feeling introverted, cut-off, or like a stranger in their own lives, and those who described feeling emotionally and physically inert. Another minority stated that they were unable to control their symptoms and the events in their lives, and that they appeared to be in a constant state of confusion or frustration.

The last stage involved determining the areas in which the sufferer needed to improve in order to "integrate" their harrowing experience. These categories included the description of trauma, acceptance of trauma, their ability to control or balance symptoms, comprehending the relationships between feelings, requirements, circumstances, and other people, feeling confident, and having a comprehensive perspective of themselves. In the end, our exploratory criteria were composed of five different approaches as well as five different categories.

### Refining of Instruments and Adjustments to the Calibration

Two researchers independently applied the original criteria to the narrative interview transcripts of the same survivor, which allowed the researchers to improve the rubric. A total of five rounds were conducted, and at the end of each one, the grading criteria were revised in order to make certain points more clear. These revised criteria were then used to evaluate the performance of new participants in consecutive rounds. Random selection was used to determine which participant conversations would be transcribed, and the researchers submitted their coding without being able to see each other's work. The team was successful in achieving a 100% correlation of several pairs of total values by utilising the final criteria. The modifications made to the criteria are detailed in Table 1, and the finished version of the rubric can be found in Table S1.

Table 1

Summary of rubric refinements.

Analysis Round	Major Discovery	Change Made to the Rubric
1 and 2	Definitions of "consumed" and "surviving/overwhelmed" were similar	The consumed pathway survivors struggled with the frustration of recovery; surviving pathway struggled with frustrations with navigating the challenges of daily life.
	Descriptions of "cut off/frozen" and "minimizing" were similar	Minimizing pathway trauma history was not relevant in the lives; cut off/frozen pathway sense of feeling stuck.
3	The philosophy and purpose of the rubric itself were unclear	Focus is on trauma only, not all of life's adversities; assess how the survivor understands trauma in the fabric of her life and selfhood.
	Need to "bracket" psychiatric labels	Focus is on the survivors' perceptions, not a diagnosis; removed any pathologizing phrases.
4	Social network engagement embedded in other	Made a new domain called "engaging with a supportive social network" which includes



## Statistical Significance

Analysis of relationships showed that there was no substantial connection between age and any of the research variables. PHQ8 and PCL5 exhibited highly significant positive associations, with  $r$  equaling 0.68 and  $p$  being equal to 0.00. There was a statistically significant inverse association between SOC and both the PHQ8 ( $r = 0.66$ ,  $p = 0.00$ ) and PCL5 ( $r = 0.66$ ,  $p = 0.00$ ) measures of depression. The results of an ANOVA comparing the means of PTSD scores across countries show that there are substantial differences between the countries, with Turkey having a significantly greater mean PTSD score ( $F = 4.9$  ( $df = 3$ ),  $p = 0.00$ ).

Table 3

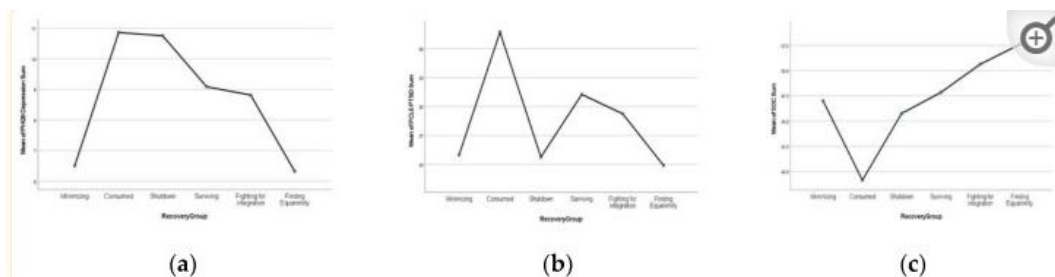
Sample characteristics GBV survivors ( $N = 71$ ) and pathway of trauma recovery per country.

Variable	Japan (N = 23)	Turkey (N = 12)	Greece (N = 14)	USA (N = 22)	
	M (SD)				
Age	46.5 (6.3)	31.7 (5.9)	42.5 (14.4)	22.1 (2.3)	
PHQ8	9.1 (7.3)	8.8 (4.3)	8.1 (5.3)	7.3 (5.8)	
PCL5	28.0 (20.3)	44.3 (13.3)	22.2 (13.8)	22.2 (17.2)	
SOC	43.8 (14.7)	49.9 (9.7)	53.6 (13.2)	52.1 (14.9)	
Current medical diagnosis	81%	66%	50%	66%	
	Trauma Recovery Pathway by Country Group				Total
Normalizing	---	---	---	---	
Minimizing	---	---	---	---	
Consumed	4	---	1	2	9.9%
Shutdown	---	1	3	4	11.3%
Surviving	2	4	5	1	16.9%
Fighting for integration	6	2	2	6	22.5%
Finding equanimity	11	5	3	9	39.4%

No significant disparities in trauma assimilation ratings were found between countries, as determined by an ANOVA evaluation of averages. PHQ8 was negatively associated with TRR sum ( $r = -0.29$ ,  $p = 0.01$ ), and all of the domains: trauma definition ( $r = -2.9$ ,  $p = 0.02$ ), trauma acceptance ( $r = -0.24$ ,  $p = 0.04$ ), balance ( $r = -0.27$ ,  $p = 0.02$ ), holistic self-view ( $r = -0.28$ ,  $p = 0.02$ ), empowered functioning ( $r = -0.31$ ,  $p = 0.01$ ), and social engagement ( $r = -0.24$ ,  $p = 0.05$ ). PHQ9 functioning mean was also unfavourably correlated with TRR total ( $r = 0.38$ ,  $p = 0.01$ ) as well as the majority of the categories, including trauma characterization ( $r = 32$ ,  $p = 0.02$ ), trauma acceptance ( $r = 0.39$ ,  $p = 0.00$ ), Balance ( $r = 0.38$ ,  $p = 0.01$ ), and empowered functioning ( $r = 0.43$ ,  $p = 0.00$ ). The total TRR had a significant favourable association with SOC ( $r = 0.27$ ,  $p = 0.02$ ). Additionally, a favourable association was found between SOC and the description of trauma ( $r = 2.7$ ,  $p = 0.02$ ), acceptance of

trauma ( $r = 0.27, p = 0.02$ ), the perception of equilibrium ( $r = 0.27, p = 0.02$ ), and confident performance ( $r = 0.31, p = 0.01$ ).

We used independent sample t-tests to investigate whether or not there was a significant difference between the average TRR ratings of individuals who had possible melancholy or PTSD and those who did not have either of these conditions. T-tests were significant for depression categories, with non-depressed survivors ( $n = 42$ ) having significantly greater TRR means ( $M = 35.0, SD = 7.7$ ) compared with their depressed counterparts ( $n = 29$ ) ( $M = 29.6, SD = 8.7$ ) ( $t = 2.8, df69, p = 0.00$ ). This was the case because non-depressed survivors had a substantially lower standard deviation. On the other hand, there were no disparities in mean ratings between those with presumptive PTSD and those who did not have probable PTSD. (Table 4). The average levels of melancholy, PTSD, and symptoms of social isolation for each rehabilitation group are presented in Figure 1.



**Figure 1: Recovery group's means: (a) depression; (b) PTSD; (c) SOC scores**

## CONCLUSION

Despite the fact that we used narrative data from a number of different countries, the generalizability of our findings to countries whose narratives were not included in this analysis is restricted and requires additional testing. In addition, this research was only conducted with adult women who identified as survivors; therefore, extreme prudence is advised before extending these ideas to younger survivors, male survivors, or survivors who do not identify with either gender. The cross-sectional methodology of the research makes it impossible to draw any conclusions regarding the existence of causative relationships, and the variables that were included in the original dataset prevented us from doing so. If we could understand how other recovery-oriented measures correspond with these categories, we might gain some insight into the factors that cause mending to vary across different survivor groups. In subsequent research, the longitudinal application of this criteria with bigger populations to study change over time should be given serious consideration. In this particular research, the raters made a conscious decision to not follow clinical or any other diagnostic criteria when analyzing survivor narratives. This was done to prevent the possibility that diagnostic approaches would have an effect on the pathway evaluations. We vehemently reject the notion that survivors who score as more integrated are more "healed." This approach diverges substantially from other studies that have looked at recovery benchmarks. On the other hand, we anticipate that the TRR will be able to assist in customizing intervention strategies in therapeutic and support contexts according to areas of concern at the moment of assessment. This study demonstrated that the TRR has

significant promise as an innovation for analyzing and evaluating women's GBV trauma recovery pathways and is a survivor-centered, trauma-informed way to understand and quantify pathways of recovery using narrative data. In conclusion, this study demonstrated that the TRR has significant promise as an innovation for analyzing and evaluating women's GBV trauma recovery pathways. We have high hopes that the TRR will motivate researchers to shift away from a "one size fits all" strategy and instead acknowledge and further investigate the differences in survival recovery that occur. Another significant advantage of TRR is that it incorporates narration data from multiple countries, which demonstrates its cultural appropriateness when applied in a variety of cultural settings. This is yet another area in which TRR excels. The TRR is a useful tool for gaining an understanding of survivor narrative data, the various survivorship pathways, and the ways in which these various pathways may influence health outcomes. The TRR can be used clinically to better understand survivors' lived experiences and where they are in their recovery processes at the time of scoring. This can help clinician's better tailor their approach while also revealing to survivors a direction, set of goals, or an area to focus on while receiving treatment.

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