The Effectiveness of Therapeutic and Psychological Intervention Programs in PTC-GAZA

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Abstract

The wars on Gaza (2008, 2012 & 2014) have left thousands of children and adults exposed to traumatic events (UNICEF, 2017). This study seeks to study and compare the usefulness of three different intervention programs, namely Therapeutic, Psycho-social support and Focusing. These interventions have been developed based on a holistic and integrated approach aimed at empowering resilience among Palestinian patients with Posttraumatic Stress Disorder (PTSD). PTSD was assessed through a validated scale developed by Altawil (2016). The aforementioned interventions were found to be successful: a) In the Family Therapy Programme (FTP), PTSD diagnosis reduced from 82% before intervention to 20% after intervention; b) In the Community Wellness Focusing Programme (CWF), PTSD diagnosis reduced from 97% before intervention to 19% after intervention; c) In the Psycho-Social Support Programme (SANID), PTSD diagnosis reduced from 50% before intervention to only 14% after intervention. Establishing the impact of interventions can be difficult without good tools for evaluation or assessment. Therefore, PTSD scales must consider culture, specific needs and the context of trauma exposure using both quantitative and qualitative assessment tools. Future tools should examine On-going Traumatic Stress Disorder (OTSD) so that it reflects on-going conflict and trauma in war-torn environments worldwide.

Keywords PTSD. Trauma. Intervention. Resilience. Family therapy. Psycho-social support. Focusing. War

Globally, 1 in 6 children are living within war zones where civilians are in greater danger than soldiers of becoming casualties or being killed (Rieder and Choonara 2012). This highlights the negative impact that war has had in recent decades on the psychological health of citizens, and the obligation for these innocent people to be sheltered from the impact is progressively becoming a broadly acknowledged concern in the global humanitarian sector. War deconstructs the security of family and social units and, consequently, Betancourt and Tanveer (2008) emphasize that these alterations have a substantial influence on the growth, progression and wellbeing of children particularly. Over the last 70 years, war and conflict have vastly influenced the lives and well-being of Palestinians living in the Gaza Strip and the West Bank (Altawil 2016). Giacaman et al. (2004) established that the restrictions on the liberty of young Palestinian people under occupation in the West Bank and the inherent unpredictability produced by the Israeli military occupation have dramatically impacted on the adolescents' wellbeing, development and education. A series of research studies were carried out which observed the effects of war on Palestinian children living in the Gaza Strip (Thabet et al. 2006, 2008). These studies concluded that symptoms of depression, anxiety and Posttraumatic Stress Disorder (PTSD) were prominent amongst children who had been exposed to substantially distressing events, such as destruction of their family house, viewing their family being murdered, bombings and the arrest of family members (Thabet et al. 2006, 2008). The effects of these medical disorders are severe and can dramatically hinder a child sleeping, cause lack of concentration, panic attacks, anxiety and, perhaps even more disturbing, instill a constant sense of fear within children and babies (Thabet et al. 2006, 2008). Samara and Altawil (2013) found that, between the years 2006 to 2012, the percentage of Palestinian children with PTSD symptoms had risen from 41 to 88%, which reflects a drastic increase over a short period of time. While PTSD is typically categorized as trauma which has already occurred, Sehwail (2005) states that it is a

continual disorder and, consequently, the Palestinian people are actually living with the distress of Ongoing Traumatic Stress Disorder (OTSD). It has also been established that there is a substantial detrimental impact on the overall welfare and health of Palestinian individuals as a result of continually experiencing political violence and degradation (Barber 2008).

The Gaza Strip, neighboring the Mediterranean Sea between Israel and Egypt, is among the most heavily inhabited geographical locations across the globe, with approximately 17% of the entire population inhabiting the small northern area of the Gaza Strip (Altawil 2008). This area has a series of substantial issues affecting the inhabitants: low life expectancy, high unemployment, overcrowding and low socio-economic status. Almost 66% of the population are categorized as refugees and roughly 55% of the refugees are inhabitants of 8 incredibly overcrowded refugee camps (PCBS 2015).

Thabet et al. (2008) previously established that out of 200 families assessed throughout North and East Gaza, approximately 70% of the children who had experienced continual bombing in 2006 commonly displayed symptoms of PTSD. Parents also displayed higher levels of PTSD and anxiety. Additionally, there is a direct correlation between poor mental stability of parents and the progression of similar mental health issues of their children (Thabet et al. 2008). Furthermore approximately 500,000 citizens in Gaza were internally displaced and around 108,000 citizens lost their homes as a result of the intense hostilities. It was reported that approximately 400,000 people were left in need of physical, mental as well as emotional help and support (OCHA, September 2014).

There are various responses of people in the face of ongoing trauma, and these have been influenced by some protective and mediating factors (Altawil 2008). The first factor is involvement in the resistance movement against the occupation and settlers' forces in Palestine (Abu Hein et al. 1993). Abu Hein et al. (1993) suggested that children who were involved in the first Intifadah and took part in throwing stones against occupying soldiers were less likely to suffer from PTSD compared to children who did not get involved. The second factor highlighted that the likelihood of suffering from PSTD was closely related to how trauma was defined (Barber et al. 2013). The latter authors reported that Palestinian youth was less traumatized with less prevalence of PTSD compared to Bosnian youth. This was the case as the Palestinians consider it to be their duty to stand against the occupying forces as part of the resistance.

With regard to the current study, the authors have recognized that the first major trauma cases in Palestine Trauma Centre (PTC)-Gaza started with the uprooting of Palestinians from their homeland in 1948, along with other traumatic events which also badly affected the Palestinians. More recently the divisions among the two main Palestinian political parties in the last 12 years have also had a big impact. The Palestine Trauma Centre (PTC: in Gaza and the UK) have reacted to the dreadful situation and sought additional help to deal with on-going and new trauma. In response, PTC developed intervention programs to work on a community level to empower families and individuals to develop their own skills to combat stress and trauma.

This study aims to evaluate the effectiveness of the following therapies: Family Therapy Programme (FTP), PsychoSocial Support Programme (SANID) and Community Wellness Focusing (CWF) implemented at PTC-Gaza. Quantitative assessment methods are generally used to evaluate each of the interventions (e.g. PTSD-Scale Review, SRII). PTSD-SRII is a quantitative assessment tool used to diagnose the participants before and after conducting the intervention to determine accurately the level of improvement among PTSD patients.

Overall, the most crucial security elements for children are considered to be parental wellbeing, social support, active relationship with culture and ideological commitment. Furthermore, emotional and psychological support from the family and teachers largely benefit children living in war zones as it gives them hope for an improvement in their situation (Lith 2007). Importantly, Bracken et al. (1995) proposed that treatments for psychological conditions associated with trauma which were successful throughout the west were overwhelmingly unsuccessful for citizens from alternative cultural and social settings. Therefore, this study in the Gaza Strip addresses this issue by evaluating the effectiveness of three different therapies in a specific culture and population. With all the above in mind, this study aims to assess the impact of the aforementioned three programs with regard to pre and post assessment while also identifying any differences in effectiveness between the therapeutic and psychosocial intervention programs.

Methods

Design, Participants and Recruitment

This study utilized an experimental design, comparing the effectiveness of three PTSD therapies/programs. A total of 227 participants with symptoms of PTSD took part in one of three therapies, their ages ranging from 12 years to 75 years. Of those, 79.9% of the participants were female and 20.1% male. A total of 92% of these participants who received treatment from PTC are residents of refugee camps in the Gaza Strip. Participants were treated using either a) Family Therapy programme (FTP) received by 80 participants (28.1%); b) Psycho-Social Support programme (SANID) received by 90 participants (31.6%); c) Community Wellness Focusing (CWF) received by 115 (40.4%). All participants were recruited based on purposive sampling method and all were clients of PTC.

Participants were allocated for treatment following a review of databases which have been developed in the aftermath of wars or invasion in Gaza. These data bases were generated from screening methods of PTC-Gaza, referral system from PTC-Gaza, field visits to devastating areas in Gaza as well as the conduct of psycho-education sessions with families, teachers, people in the community, and also, other partners in the region with the cooperation of the Palestinian Ministry of Health. All participants were recruited on one of these interventions from the databases in PTC-Gaza, which were also updated after each war in line with the field screening process supported by the Ministry of Health. The participants were split into two groups to then be directed to the right intervention based on the severity of exposure to trauma. For example, if a family lost one of its family members, they would be referred to FTP. Likewise, if an individual witnessed traumatic events such as explosions, he would be referred to CWF or SANID Programmes in the form of a psycho-social support intervention.

Psychologists and therapists were sufficiently trained to deliver the interventions and diagnose PTSD. They followed strict written intervention protocol (instructions) designed by the researcher and PTC (Palestine Trauma Centre).

Materials

All the three interventions were developed in a study by Altawil (2008). Altawil's study concluded that the therapeutic and psycho-social support within the family and community effectively reduced the symptoms of PTSD and also increased resilience against the development of PTSD. Both PTC-Gaza and UK aim to establish the effectiveness level of these interventions. Since 2007, PTC-Gaza developed these interventions to also meet the cultural needs of people in Gaza. As such, every session/activity in these interventions was carefully developed and tested among Arab speakers in

the UK using a pilot study before their implementation in Gaza. This study also strongly recognized that any successful intervention in a western context would not necessarily result in a similar outcome in a non-western setting, especially if people live in different circumstances and/or have different cultures.

Family Therapy Program (FTP) FTP mainly aims to maintain good relationships and help cope with tough emotional situations, thus enabling family members to support each other. It also aids in guiding children and their families through practical skills including better communication on how to overcome trauma and enhance their resilience and steadfastness.

The provision of psycho-education to children and their parents builds community solidarity so that no one is alone with a problem. Teachers, parents, youth workers and medical staff can also be trained to use psychological techniques to sustain community well-being; hence instilling and strengthening resilience and providing the skills to maintain it during emotional times. Since the first FTP in 2009, horrific bombardments and invasions have constantly challenged the resilience of the people in Gaza. They are denied fulfilling lives, their human rights and peace of mind. There is a local FTP intervention team in PTC-Gaza which is prepared for emergency action in times of crisis in the form of spontaneous therapeutic intervention.

The work team consists of a supervisor, a field coordinator, psychologists, social workers, family workers, activity facilitators, clinical psychologists, psychiatrists and volunteers. PTC (Gaza & UK) have used and developed therapeutic approaches related to the needs and culture of the Palestinian people. All decisions about intervention are made by the local team in Gaza. The activities through which therapy is delivered include drama, art, media skills and mentoring. FTP provides each family exposed to traumatic events with 12 sessions over three months, along with pre and post assessment (PTSD-SRII). The 12 sessions in the FTP are: (1): Building trust and healthy relationship within the family and society; (2): Hope and fear and safe space; (3): Building a cultural family genogram; (4): How to overcome the trauma and difficulties of daily life; (5): Feelings and needs; (6): Generating resilience through an exercise called 'Dry and Green Sticks' as a metaphor for resilience; (7): Generating a resilient narrative story for the family members; (8): Balancing power among the family members; (9): Empowering psychological resources for the family; (10): Using the spiritual support and focused solution activity; (11): StressFear management; (12): Building life management and coping strategies.

Psycho-social caring services are free for most children and adults with severe exposure to traumatic events in all geographical areas of the Gaza Strip. The FTP team that has backing from INTERPAL, which is a Palestinian Charity based in London, can visit the families at home, at the center (PTC), or at local non-governmental organizations (NGOs) to implement the therapeutic services. This involves an additional two sessions to the 12 offered, including the pre and post assessment. The first phase in 2010 was facilitated by the University of Hertfordshire (UK) and funded by INTERPAL and Muslim Aid in London. The second phase is funded by INTERPAL, which started in July 2013, and is extending its work to schools and community groups.

Psycho-Social Support (SANID) SANID is a form of psychosocial support intervention which aims to support war-affected victims in the middle/northern regions of the Gaza Strip. With the help of a professionally trained work-team, SANID's goal is to strengthen the resilience of the Palestinian families and to help them overcome psychological difficulties and also learn how to face challenges in various settings such as the Centre and out-reach (family visit, school and street). SANID's intervention also provides psycho-education to reinforce a family's social relationships. Educational and psychological support meetings are held for the parents. School teachers train them with the

skills needed to cope with the on-going suffering and insecurity resulting from some of the most recent wars on Gaza (2008, 2012 & 2014) and the ongoing siege which has been imposed on Gaza since 2007 (UNICEF, 2017).

The project's support team consists of psychologists, social workers, a psychiatrist and activity facilitators. The psychosocial intervention includes six field sessions provided to families where the initial psychological pre-evaluation is performed. This is followed by psychological, educational, and entertainment sessions with a final evaluation of the families and follow-up depending on the need/s of the family or any of its members. SANID has six sessions excluding the pre-post assessment as shown below: (1): Building trust and psychological debriefing; (2): Expressing feelings; (3): Safe space and coloring; (4): Stress and resilience; (5): Pain and hope; (6): Building a resilient narrative story.

Community Wellness Focusing (CWF) Local NGOs identify people who can be trained to facilitate a 12-session program of learning and development. Each CWF session is conducted once a week along with pre and post PTSD-SRII assessments. Other group focusing sessions are available for men and women, children and adults and are individually administered. The following sessions encompass: (1): Listening to ourselves; (2): Quality of good listening to others; (3): Partitioning strong feeling and verbal reflection skill; (4): Safe place exercise; (5): Drawing of feelings, name-expression exercise, and thoughts and feelings differentiation; (6): Psychological resilience; (7): Expressing feelings by symbols; (8): Teddy bear exercise with children; (9): Proverbs and Quran verses exercise; (10): Needs and feelings exercise through play cards; (11): Feelings edge exercise; (12): Emotions and trust.

The CWF largely benefits the individuals and their communities. The CWF does not change the events of the past/present but it certainly changes how the events are perceived and processed. In general, participants and clients who have experienced Focusing sessions reported that it has improved their ability to cope by increasing their inner resiliency (Klagsbrun 1999; Klagsbrun et al. 2010). Focusing trainers developed CWF by bringing together Professor Eugene Gendlin's Focusing method (originally developed at the University of Chicago) and psycho-social approaches to resilience (Klagsbrun et al. 2010). PTC-Gaza worked with Focusing Trainers to bring CWF to Gaza, translating the training material into Arabic and making it relevant for an Arabic cultural context.

The material is based on CWF and the program recognizes that focusing on one's senses can be difficult for people who have experienced trauma (Klagsbrun 1999). Therefore, it has developed a range of exercises that provide an indirect way of recognizing feelings. The use of objects (teddy bears), movement, drawing, and mood cards provides some symbolic expression and distance. This enables people to talk about their feelings without getting overwhelmed and thus access their inner resilience (Klagsbrun et al. 2010). Participants in the current course have reported considerable psychological relief as is evidenced by the success rates of the program in Gaza. Palestinians have been involved in adapting CWF to their situation and have also identified what works for them. It has been tested in one of the main pressure points in the Middle East and it is firmly anticipated that it will be transferrable to other areas. This approach moves people away from helplessness to having an input into building their resilience.

Measures

The current study adapted a PTSD scale (PTSD-SRII, 33 items) from a questionnaire used in a study by Altawil (2016). This questionnaire was based on the validated original version developed by Altawil (2008). The original questionnaire was developed to measure for PTSD based on symptoms reported in DSM-IV (2013) and ICD-10 (1992) while taking into consideration previous PTSD research locally

and internationally (e.gs. Pynoos et al. 1987; Armstrong et al. 1997; Bernstein and Fink 1998; Hawajri 2003; Smith et al. 2003; Saigh 2004; El-Khosondar 2004).

The PTSD-SRII questionnaire is scored on 11 points, ranging from zero (lack of any sort of problem or suffering whether psychological, cognitive, physical or functional) to ten (the closer the rating is to 10 the worse the disorder level – psychological symptoms). It can be administered by clinicians who have a working knowledge of PTSD, although it can also be administered by appropriately trained para-professionals. It was also published in the Diagnostic and Statistical Manual of Mental Disorders; 5th edition (DSM-V 2013), and was revised in both languages (English and Arabic) in the previous edition, according to the instruction enlisted in the fifth American Manual. Nine items were deleted from the previous edition of Altawil (2008) and forty-three items from fifty-two validated phrases were approved in the Manual of Post-Traumatic Stress Disorders (DSM-V 2013). The PTSD diagnostic indicators were summarized according to the American Manual into thirty items with five categories of symptoms and disorders (see Appendix).

Concurrent validity was achieved for the current questionnaire (PTSD-SRII) and this was based on a significant positive correlation between total PTSD symptom generated within the current study and an earlier study by Hawajri (2003) [$r(50) = 0.520$, $p < 0.01$]. The internal reliability across the five subscales of this questionnaire was measured using Cronbach's Alpha Coefficient (generating reliabilities above 0.80). The PTSD-SRII was completed by three psychologists/therapists; Inter-rater reliability was checked for 10 participants by an independent therapist. There was a good reliability, based on PTSD total symptoms, between psychologists/therapists (Cohen's Kappa = 0.87). The questionnaire is considered valid and reliable for its use in this study.

Procedure

The database for individuals and families who were severely exposed to traumatic events in the Gaza Strip was updated, after which the team of FT, SANID and CWF contacted the Ministry of Social Affairs and the Ministry of Health to have access to the list of people and families who have been exposed to significant trauma as a result of the constant siege and having experienced three wars on Gaza (2008, 2012, 2014). These families who were exposed to traumatic events were visited by the team of PTC-Gaza to establish whether they still required psychological treatment. In an attempt to ensure that this service was cost effective it was imperative that all clients were eligible to receive this free treatment and also, they were not under treatment from other Mental Health organizations in Gaza. Also, it was not compulsory for clients to receive this psychological treatment provided by PTC-Gaza. The team of PTC introduced their services in each intervention program and also provided information sheets and consent forms about the treatment. After gaining consent from the families the sessions of the interventions started with the psychologists conducting the pre-assessment scales. The clients were interviewed, and each psychologist recorded their responses on the scale papers. Each session conducted with the client included a pre and post evaluation. The FTP and SANID were carried out within the family setting while the CWF was conducted within a group setting. Following the completion of all agreed sessions with the clients in each intervention program, the post assessment phase took place with the help of the same scale used at the beginning of the intervention. All the clients were given the option to receive the treatment either at home or in the center of PTC. Last but not least, all the three treatment interventions were supported by weekly supervision sessions by a professional team within PTC United Kingdom via Skype.

Results

The study aimed to evaluate the effectiveness of three PTSD interventions against each other. The three therapies are: Family Therapy (FT), Psychosocial Support Intervention 'SANID', and Community Wellness Focusing (CWF). Participants' PTSD symptomology was coded based on the number of symptoms exhibited (as per assessment). PTSD scores were also divided into Obsessive-Compulsive Symptoms (OCS), Avoidance Symptoms (AS), Negative Changes (NC), Irritability Symptoms (IS), Personal/ Professional Functional Accomplishment (PFA). The results section examined differences between PTSD symptoms pre and post-intervention (reduction in symptoms) and between the three interventions. Differences were assessed based on clinical diagnosis by psychologists/therapists across the three therapies (participants either had PTSD or they did not).

Differences between Pre and Post-Interventions

Initially, it was essential to determine whether or not interventions, as a whole, reduced PTSD symptoms. Total symptoms of PTSD were calculated along with the total for each subscale within OCS, AS, NC, IS, PFA. A paired-samples t-test was conducted and the results showed that post-interventions (M=65.45, SD=36.60) the PTSD symptoms were significantly reduced when compared to pre-interventions (M= 184.01, SD=51.50), $t(282)=38.41$, $p<0.01$. This illustrates that the three interventions successfully and significantly reduced the symptoms of PTSD among people who are severely exposed to traumatic events in the Gaza Strip. A paired sample t-test was conducted for each of the intervention groups separately. The FTP was shown to have a significant effect on the number of recorded PTSD symptoms, $t(80)=47.30$, $p<0.01$. Participants showed less PTSD symptoms after receiving the intervention (M=77.56, SD=36.60) as compared to pre-Family Therapy (M = 203.47, SD = 22.50). The Focusing intervention (CWF) also showed a significant impact on the number of recorded PTSD symptoms, $t(113)=23.12$, $p<0.01$. There was a reduction in PTSD symptoms (M=61.21, SD=44.05) after intervention compared to pre-intervention (M = 198.28, SD = 57.76). Similarly, SANID Intervention showed significant reduction in PTSD symptoms from M=148.63 (SD=43.33) pre- intervention to M=60.07 (SD=32.20) after the intervention, $t(88)=22.00$, $p<0.01$. Significant decrease was noticed between pre and post interventions in all three groups separately and across all PTSD subscales, and all three interventions combined or individually showed significant decrease in PTSD and its symptoms. Table 1 shows descriptive statistics and paired samples t-test values for total PTSD and its subscales (symptoms). Higher score indicates more symptoms.

Table 1 Difference between pre/post interventions using paired samples t-test

	Time	FT		CWF		SANID		All combined	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
Total	Pre	203.47	51.5	198.28	57.76	148.63	43.33	184.01	51.5
Total	Post	77.56	36.6	61.21	44.05	60.07	32.2	65.45	36.6
MD		125.91	23.8	137.07	63.29	88.55	40.15	118.55	52
t		47.30**		23.12**		20.92**		38.41**	
OCS	Pre	31.13	7.46	29.22	8.43	25.72	7.41	28.65	7.46
OCS	Post	11.15	7.21	11.29	8.35	12.34	8.04	11.58	7.21
MD		19.98	4.21	17.92	10.07	13.37	7.87	17.06	8.48
t		42.39**		19.00**		16.11**		33.89**	
AS	Pre	18.16	7.16	21.54	6.25	15.31	8.34	18.61	7.16
AS	Post	6.18	5.65	7.71	6.33	7.55	6.36	7.23	5.65
MD		11.97	4.26	13.83	7.49	7.75	6.1	11.38	6.77
t		25.12**		19.7**		12.04**		28.30**	
NC	Pre	67.61	20.75	65.35	20.67	44.4	19.75	59.34	20.75
NC	Post	27.82	15.94	21.66	18.09	23.9	16.32	24.1	15.94
MD		39.78	10.98	43.68	23.43	20.5	15.85	35.23	20.87
t		32.38**		19.90**		12.26**		28.45**	
IS	Pre	38	15.64	33.57	14.33	11.38	8.08	27.78	15.64
IS	Post	14.52	8.04	9.14	9.35	5.31	4.76	9.44	8.04
MD		23.47	5.84	24.42	14.93	6.07	7.26	18.34	13.61
t		35.91**		17.46**		7.93**		22.70**	
PFA	Pre	48.56	15.08	48.58	17.86	51.81	16.74	49.6	15.08
PFA	Post	17.87	8.58	11.39	8.568	10.96	8.79	13.08	8.58
MD		30.68	6.08	37.19	18.78	40.84	19.23	36.51	16.83
t		45.12**		21.14**		20.14**		36.56**	

*$p < 0.05$,**$p < 0.01$; *t*, t-value; *MD*, Mean Difference

When comparing mean difference between symptoms pre and post-intervention, the subscale of Obsessive-Compulsive Symptoms was reduced most in the FTP (highest difference in average). The CWF was the most effective in reducing Avoidance Symptoms, Negative Changes, and Irritability Symptoms. The SANID was most effective compared to the other interventions in reducing Personal/Professional Functional Accomplishment.

Symptoms Reductions in Percentages

Participants across all three interventions varied in the number of symptoms they had prior to the intervention, hence it was essential to convert the difference between pre and postintervention (number of symptoms) into a percentage of success (i.e. to what extent the intervention was successful) (0 to 100%). The difference for overall PTSD score as well as the five scales (pre-post) was computed to create 6 new variables representing the success of the interventions. When looking at overall PTSD success percentage, a one-way independent sample ANOVA showed that there is a significant difference ($p< 0.05$) between the three therapies, $F(2,281) = 4.57$, $p<0.05$; the Focusing Therapy showed the highest percentage of decrease in PTSD symptoms (M=66.78, SD=21.97) followed by Family Therapy (M=62.07, SD=10.16) and SANID(M=58.95,SD=19.79). Bonferroni post-hoc test revealed that significant difference existed only between the Focusing and the SANID therapies ($p<0.01$). When testing the five PTSD subscales, it was evident that there was a significant effect of the intervention type on each of the subscales ($p<0.01$). The OCS was significant at $F(2,281)=5.29$, $p<0.01$FTP showed the highest success followed by the CWF and lastly the SANID. Bonferroni post-hoc tests showed significant difference between FTP and SANID only ($p<0.01$). A significant effect of interventions was also found on AS, $F(2,280)=6.02$, $p<0.01$.FTP showed highest success followed by CWF and lastly the SANID. Significant difference was also noted between FTP and SANID ($p < 0.01$) and between CWF and SANID ($p<0.01$). Furthermore, a significant effect of interventions was found on NC, $F(2,281)=13.01$, $p<0.01$. CWF had the highest success followed by FTP and lastly SANID. Significant difference was noted between CWF and SANID ($p<0.01$) and

between FTP and SANID (p<0.01). Similarly, a significant effect was found on IS, F(2,280)=11.20, p<0.01; the CWF had the highest success followed by FTP and lastly SANID. Significant difference was found between CWF and SANID (p<0.01) and between FT an SANID (p<0.01). Finally, no significant effect of interventions was found on PFA, F(2,280)=0.54, p>0.05, although the CWF showed the highest success followed by SANID and lastly FTP (Fig. 1).

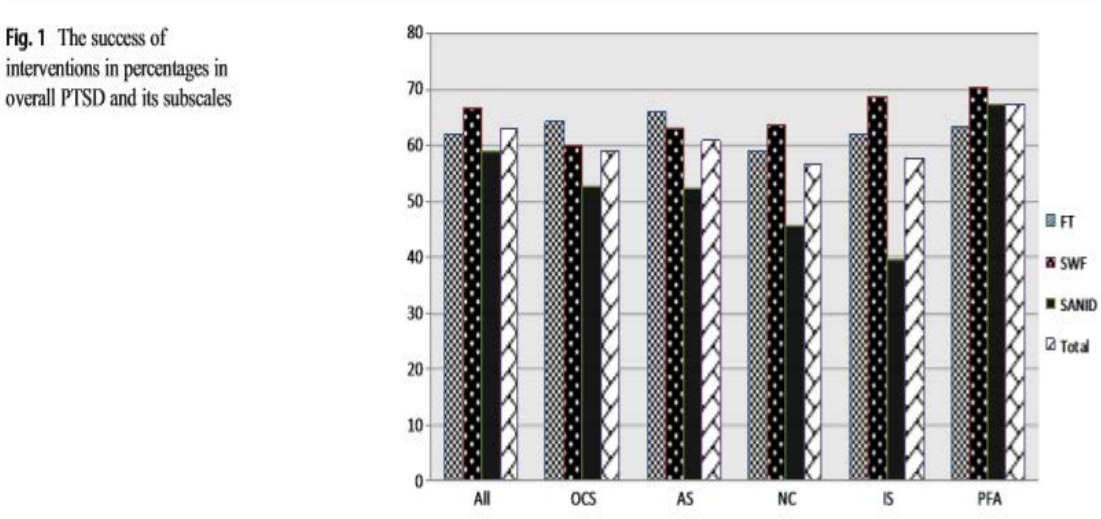

Fig. 1 The success of interventions in percentages in overall PTSD and its subscales

Differences Based on Clinical Diagnosis

Along with the recorded symptoms, each of the participants was diagnosed in therapy to either have or not have PTSD based on a clinical DSM5 diagnosis (1=has PTSD, 0=does not have PTSD). All participants were diagnosed before and after the interventions. In the FTP, 70 clients were diagnosed with PTSD before the intervention and 10 did not have PTSD symptoms. Of those diagnosed with PTSD 95.7% (67) overcame PTSD following the FTP and only 4.3% (3) carried on having PTSD. In the CWF group, 108 were diagnosed with PTSD before intervention and 6 were free from PTSD symptoms. Of those diagnosed with PTSD 77.8% (84) overcame PTSD and it persisted with 22.2% (24). In the SANID intervention group only 45 were diagnosed with PTSD pre-intervention as compared to 44 who did not suffer from PTSD. By looking at the diagnosis postintervention it was shown that of those with PTSD 77.8% (35) showed no symptoms of PTSD compared to 22.2% (10) who had PTSD. In all the three interventions groups (FTP; CWF; SANID),223 were diagnosed with PTSD before the three interventions and 60 were free of PTSD symptoms. Of those diagnosed with PTSD 83.4% (186) overcame PTSD and it persisted with 16.6% (37) as shown in Table 2. Further statistical tests showed that participants' age and gender showed no significant effect on total PTSD symptoms, PTSD diagnosis or the percentage of treatment success (p>0.05).

Table 2 Average of clients diagnosed with PTSD pre and post-intervention

Type of Intervention	N.	Diagnose in pre-intervention		Diagnose in post-intervention	
		With PTSD	No PTSD	Freed of PTSD	No improvement
FT	80	70 (87.5%)	10 (12.5%)	67 (95.7%)	3 4.3%
CWF	114	108 (94.7%)	6 (5.3%)	80 (77.8%)	24 22.2%
SANID	89	45 (50.6%)	44 (49.4)	35 (77.8%)	10 22.2%
All interventions	283	223 (78.8%)	60 (21.2%)	186 (83.4%)	37 16.6%

Discussion

Differences between Pre and Post-Interventions

Current findings show that FTP, CWF and SANID successfully and significantly reduced the symptoms of PTSD among Palestinian children and adults who were severely exposed to traumatic events along the Gaza Strip. In addition, it was found that the most powerful and effective interventions which greatly reduced the number of PTSD symptoms were CWF, FTP followed by the SANID intervention. As emphasized in the current study, it is widely-acknowledged that when psychosocial or therapeutic services are provided to an entire family or community, the benefits are overwhelmingly positive for a large number of individuals and groups. Betancourt (2004) also points to a series of research studies that have established that with social support positively bringing communities together and enabling individuals and families to occupy safe and uplifting locations, there is a direct positive correlation between the development of children and young people and their psychological and emotional conditions.

Importantly, Betancourt (2004) proposes that treating people individually does not effectively address the major psychological, emotional and physical issues which are impinging on the lives of thousands of citizens who are continually experiencing death, loss and evacuation as a consequence of the war situation. Summerfield (2000) concurs with this point and develops it further by suggesting that treatment approaches from the West which focus on the individual specifically are not successful within locations with substantially different cultural and social backgrounds. This is a noteworthy issue which was primarily addressed in the present study given that all the three interventions were tailor-made to the needs and cultural context of the Palestinian participants. Researchers in this study have also established that by collectively supporting and treating entire families and communities, there has been indeed substantial progression and success from the intervention programs, particularly in treating those with serious PTSD and trauma-related conditions. For example, Ehntholt et al. (2005) suggest that an all-inclusive method which addresses the whole family's psychological, emotional, physical and political well-being is crucial when the intervention program is treating children and adolescent refugees. Additionally, certain elements of

social support, such as parental guidance and wellbeing or support from teachers, can generate a great sense of security within children (Ozer and Weinstein 2004).

Focusing is a new psycho-social support intervention in the Arab World. PTC-Gaza has successfully developed a program (CWF) which people have found extremely effective. Pre and post-assessment of participants in Gaza shows that the CWF is indeed effective in reducing the incidence of PTSD. Similar programs of CWF have been used effectively in strife-torn areas like Afghanistan and El Salvador. It could be argued that the Focusing program was the most successful intervention in this study as it encompasses a client-centered approach which allows people exposed to traumatic events to get in touch harmoniously with their feelings and thoughts. It supports individuals and treats them with respect, acceptance and acknowledgment, and without judgment. The clients remain in control.

The CWF can empower the clients to develop their own strategies to cope with stress and trauma and to take care of themselves before attempting to support others. Importantly, if they fail to understand their own limits and strengths, it will be too difficult for them to provide sufficient support to others in their families or communities. In the current study, CWF worked effectively with same gender groups in accordance with the cultural practice in Palestine. Importantly, we believe that CWF can work successfully with families and the whole community in the long run.

The FTP intervention was also considered as effective therapy in reducing the symptoms of PTSD since it greatly contributed to lowering levels of PTSD and other stress-related conditions for suffering citizens throughout Gaza. Buka et al. (2001) concluded that the effects of war and conflict can also be lessened through the coping mechanisms of family and support from parents. Resilience, defined as the capability for people to effectively preserve or recover their psychological well-being through considerable challenges and danger (Hjemdal et al. 2001) was identified in this study as one of the most powerful and critical strengths which supported people in dealing with and fighting their trauma and stress; it also, played a significant role in lessening the development of trauma and stress. Consequently, resilience must be considered as a crucial part of the Palestinian culture which logically supports how they have bravely resisted the occupying armies since 1948.

In the current study, PTSD-SRII is administered by clinicians and psychologists who have a working knowledge of PTSD from individual sessions. The subscale of Personal/Professional Functional Accomplishment (PFA) in Psychosocial Support Intervention (SANID) was the most effective intervention compared to the other two interventions. SANID was providing services to individuals within the family, schools and communities. It was, in fact, the most effective intervention in strengthening the personal and professional performance for the practitioners themselves, their families, schools and communities. Werner (2012) states that SANID can function to strengthen security for children who inhabit war-torn locations as it supports the connection between the primary guardian and the child, the support given by teachers and, lastly, helps in generating a sense of community and harmony of values.

Along with the recorded symptoms, each of the participants was diagnosed by a therapist (before and after the interventions) to either have or not have PTSD based on a clinical DSM5 diagnosis (1=PTSD, 0=no PTSD). The Family Therapy approach was shown to be the most effective in the recovery of the clients who were diagnosed with PTSD before the intervention. The percentage of recovery after conducting the intervention was 95.7%, followed by CWF (77.80%) and SANID (77.80%). In all the three intervention groups (FTP, CWF, SANID), the percentage of recovery from PTSD was 83.4%, with only 16.6% who were still suffering from PTSD.

The most successful approach in lessening the development of PTSD in comparison to psycho-social support interventions was the FTP therapeutic method. This finding is supported by Loughry and Eyber (2003) who suggest that the central support systems for living with and challenging psychological issues amongst adults and children are the family and the entire community working together/collaboratively.

In the current study, we have noticed that positive and supportive factors include the followings: support from other family members such as siblings and grandparents, other care-givers capable of providing support and, perhaps most significantly, the principal caregiver and the child. Furthermore, there are a series of other influential factors which directly support the development and well-being of children: support and guidance from the community who are suffering the same ordeal including teachers and friends; communal religious beliefs and values; using humor and selflessness as a positive method of distraction; assuming a communal sense of responsibility for the safety of each other and, lastly, a communal element of control and security.

While PTSD can be effectively treated through family support networks, the support from other institutions such as the mosque/church, school and university are similarly crucial. PTSD can be successfully lessened with the support of friends and teachers. A multitude of research studies have been conducted which assessed the success levels of school-based interventions in former Yugoslavia, Gaza and Indonesia. These studies concluded that school-based network systems indeed played a vital role in the lessening of PTSD symptoms and other psychological conditions (Persson and Rousseau 2009), such as when students lived in a supportive environment inside the school, and when they were encouraged to care more for each other, providing a supportive and safe atmosphere for the students to express themselves freely and without fear.

Family therapy is an important treatment as De Zulueta (2009) argues that the absence of a supportive family and social structure can dramatically increase an individual's likelihood of suffering from PTSD. Morgan (2000) suggests that NA (a Narrative Approach) enables the family to change their story from overwhelmed to resilient. The NA has the capability to alter the perception of an individual who is suffering from trauma in relation to the issues and challenges they face and the stress and trauma they are living through. Through this study and with our daily work at PTC-Gaza, it is argued that the NA is very helpful within/in combination with the FTP intervention techniques. It aids in rebuilding resilience among those severely traumatized in Palestine. The NA is respectful and non-judgmental, thus enabling individuals to see themselves as experts in their own story. We also noticed that the NA can help to view problems separately which helps strengthen the resources of people exposed to traumatic events. We recognize that it increases positive coping and resiliency skills through exploring experiences, values, abilities, ideas and beliefs. Also, the therapist has a decentered and yet influential position that will enable people to have the confidence to try out alternative versions of the stories of their lives.

Overall, 223 out of 283 clients were suffering from PTSD prior to the intervention programs. Altawil (2008) stated that, in2006, approximately 40% of Palestinian children inhabiting the Gaza Strip were living with PTSD. Samara and Altawil (2012) highlighted that, 6 years later in 2012 after living through 2 massively destructive wars, 88% of young Palestinians had developed the PTSD condition. Furthermore, the social, political and economic factors throughout the Gaza Strip, since the siege in 2007to the present day, are becoming progressively worse at an alarming rate. It is concluded that, as the Palestinian citizens are still enduring the horrific events of war, this is the principal factor which is generating an increased percentage of citizens suffering from PTSD. It has been established that there is a direct correlation between the proximity of experiencing war and the probability of citizens developing PTSD symptoms. Child soldiers and children who had been evacuated against

their will were the most susceptible to long-standing psychological and emotional conditions. Werner (2012) reported that adults who had lived throughout the traumas of war as a child were presented with a substantially higher chance of developing a multitude of medical illness, particularly cardiovascular diseases. This implies that the trauma of war does not only influence individuals on a psychological and emotional level, but it can also dramatically impact an individual's bodily health (Werner 2012).

Moreover D'Andrea et al. (2011) concluded from an extensive research that long-lasting stress generated by trauma is directly linked to a variety of serious health implications and conditions. Continually experiencing trauma generated by war and conflict has the capability to hugely influence the development of physical and psychological health conditions (Anda et al. 2006). Following trauma, it is also often extremely challenging for a person to function socially or perform tasks to the same standard as they did prior to exposure to the traumatic events. Studies conducted by Ozer et al. (2003) and Denton et al. (2004) have concluded that treating PTSD with the support of an entire community including friends, family and teachers is the most effective method for lessening the symptoms of trauma and actually starting the process of therapy and rehabilitation.

To conclude, this study has highlighted that the term 'health' is multi-faceted as it includes all forms of an individual's health including mental health. Werner (2012) states that research studies assessing individuals and groups over a long period of time are extremely necessary in order to authentically and precisely gather information regarding the danger and resilience of children inhabiting war-torn locations. These studies would examine the long-standing influences and developments of the children and establish the most efficient and successful methods of treatment for these individuals desperately in need of psychological, emotional and physical support. Since the current study did not involve interviews with the participants, perhaps future research could address this limitation by also exploring the views of individuals with PTSD symptoms in relation to the usefulness of the interventions to support the quantitative findings reported in this study. Furthermore, possible limitation of this study is that it did not involve a control group, against which the interventions could be assessed, due to the fact that all patients were subjected to either of the three interventions and due to the ethical obligation that PTC has towards offering therapeutic help to those who need it.

We passionately believe that if the political conflict was resolved, the challenge of supporting and treating individuals with psychological issues would be substantially less difficult. Therefore, the assessment of the research studies and interventions is crucial. We believe that researchers ought to lessen their focus on post-traumatic stress disorders and instead focus on the stress disorders related to longstanding and continuing trauma. Every analysis of interventions on individuals and communities who are experiencing and observing war and conflict on a daily basis should always have those people's needs, dignity, culture, honor and resilience as the focus of attention.

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Compliance with Ethical Standards

Disclosure of Interest The study was commissioned and conducted by PTC. The project was supervised by Dr. Altawil with no financial benefits. Both Dr. ElAsam and Ms. Khadaroo have co-authored this article on a voluntary basis, both of whom have received no financial benefits for their contribution.

Ethical Approval This research was conducted in accordance with the ethical standards of the responsible committee on human experimentation [institutional and national] and with the Helsinki Declaration of 1975, as revised in 2000.

Informed Consent Informed consent was obtained from all the participants prior to data collection. All participants were assured of confidentiality, anonymity and had the right to withdraw from the study at any given point.

Appendix

PTSD Scale-Review (II) [PTSD-SRII]

For Older Children and Adults in conflict/war zones

(Ages 10 and above)

(Altawil 2008, 2016 & DSM-V2013)

This evaluation was developed as a solid and exact scale for the post traumatic syndrome disorder symptoms in the Palestinian environment, and this scale was approved in Dr. Mohammed Altawil's PhD study at the Psychological Therapy Division of the University of Hertfordshire, United Kingdom in 2008, and published in a scientific research journal (Altawil 2008, 2016). This is a PTSD scale from zero to ten: zero means lack of any sort of problem or suffering whether psychological, cognitive, physical or functional. The more the number increases towards 10 the worse the disorder level (psychological symptom). 'PTSD-SRII' to be administered by clinicians and clinical researchers who have a working knowledge of PTSD but can also be administered by appropriately trained paraprofessionals. It was also published in the Diagnostic and Statistical Manual of Mental Disorders; 5th edition (DSM-V 2013), and was revised in both languages (English and Arabic) in the previous edition, according to the instruction enlisted in the fifth American Manual. Nineteen paragraphs were deleted from the previous edition of Altawil 2008, and thirty-three items from fifty-two validated phrases were approved in the Manual of Post-Traumatic Stress Disorders (DSM-V 2013). The PTSD diagnostic indicators were summarised according to the American Manual into thirty-three items with five categories of symptoms and disorders as follows.

List of the most effective chocking/traumatic events:
Please ask client to list the more severe shocking/ traumatic events have they experienced in the war/ conflict zone and occupied territory. Please start with the most severe shocking event that most affected them at the present time.

1-_____

2-_____

3-_____

First (B): Obsessive-Compulsive Symptoms in remembering the traumatizing event or anything related to it:
Did you suffer from any of the following psychological symptoms within the last month? [At least one symptom must be present].

Absent	Mild			Moderate			Severe		Extreme	
0	1	2	3	4	**5**	6	7	8	9	10

Statements	Score
B1) Inability to forget the traumatizing event	
B2) Sleeping difficulties.	
B3) Suffering nightmares.	
B4) Fear of remembering the traumatizing event or anything related to it, for instance the sound of airplanes or ambulances.	
B5) Suffering from physical pain after the traumatising event, for instance headache, back pain, hand pain, stomach pain, or any other physical pain?	

Second (C): Avoidance Symptoms from anything related to the traumatising event:
Did you suffer from any of the following symptoms? [At least one symptom must be present].

Absent	Mild			Moderate			Severe		Extreme	
0	1	2	3	4	**5**	6	7	8	9	10

Statements	Score
C6) Avoiding talking about the trauma you went through.	
C7) Avoiding visiting the places or doing things that remind you of the traumatising event.	
C8) Avoiding touching or playing with anything out of fear of suspicious objects.	

Third (D): Negative changes in the psychological and cognitive status (mood). Did you suffer from any of the following symptoms within the last month?
[At least two symptoms must be present].

Absent	Mild			Moderate			Severe		Extreme	
0	1	2	3	4	**5**	6	7	8	9	10

Statements	Score
D9) Difficulty in remembering/forgetting (dispersion).	
D10) Loss of desire in living.	
D11) Not appreciating the value of anything in life.	

D12) Frustration and pessimism.
D13) Pessimism and fear of the future.
D14) Feeling guilty about the traumatising event.
D15) Fear of the reoccurrence of the traumatising event, for instance renewal of war.
D16) Difficulty enjoying things after the traumatising event.
D17) Fear of staying alone.
D18) Emotions and mood swings.
D19) Feeling lack of security and safety.

Fourth (E): Irritability symptoms, and disruption of psychosocial balance

Did you suffer from any of the following symptoms within the last month? [At least two symptoms must be present].

Absent	Mild			Moderate			Severe		Extreme	
0	1	2	3	4	**5**	6	7	8	9	10

Statements	Score
E20) Problems and inappropriate actions with family members.	
E21) Problems and inappropriate actions at school or work.	
E22) Desire to assault people or their properties after the traumatising event.	
E23) Feeling angry quickly.	
E24) Inability to properly focus on studying or doing any task at work .	
E25) Fear of any sudden sound or movement.	

Fifth (G): Personal or professional functional accomplishment

Did you suffer from deficiency in the following functional aspects within the last month? [At least one symptom must be available].

Absent	Mild			Moderate			Severe		Extreme	
0	1	2	3	4	**5**	6	7	8	9	10

Statements	Score
G26) Difficulty in continuously doing things.	
G27) Difficulty in completing duties on the personal level.	
G28) Difficulty in completing duties on the professional level (student/employee).	
G29) Relationship problems with family members.	
G30) Relationship problems with friends, relatives, or community members.	
G31) Lack of trust in people.	
G32) Weak participation in social events.	
G33) Distraction, lack of focus in study or job etc.	

Important remarks in the diagnosis/psychological assessment

Based on the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), the psychologist can diagnose the client with post-traumatic stress disorders only if at least six/seven symptoms from the five categories are present, provided that the suffering from the symptoms have reached the level of 4 or more according to the scale described earlier:

Absent	Mild			Moderate			Severe		Extreme	
0	1	2	3	4	5	6	7	8	9	10

Severity Rating

0	**Absent:** The respondent denied the problem or the respondent's report doesn't fit the DSM-5 symptom criterion.
1,2,3	**Mild:** The respondent described a problem that is consistent with the symptom criterion but isn't severe enough to be considered clinically significant. The problem doesn't satisfy the DSM-5 symptom criterion and thus doesn't count toward a PTSD diagnosis.
4,5,6	**Moderate:** The respondent described a clinically significant problem. The problem satisfies the DSM-5 symptom criterion and thus counts toward a PTSD diagnosis. The problem would be a target for intervention.
7,8	**Severe:** The respondent described a problem that is above edge. The problem is difficult to manage and at times overwhelming, and would be a prominent target for intervention.
9,10	**Extreme:** The respondent described a dramatic symptom, far above edge. The problem is persistent, unmanageable, and overwhelming, and would be a high-priority target for intervention.

Symptoms of Post-Traumatic Stress Disorders:

- **First Category (B):** Obsessive symptoms in remembering the traumatizing event.
  [At least one symptom must be present with a suffering level of four or more**].**
- **Second Category (C):** Avoidance symptoms from anything related to the traumatising event.
  [At least one symptom must be present with a suffering level of four or more**].**
- **Third Category (D):** Negative changes in the psychological and cognitive status (Mood)
  [At least two symptoms must be present with a suffering level of four or more**].**
- **Forth Category (E):** Irritability symptoms, and disruption of psychosocial balance
  [At least two symptoms must be present with a suffering level of four or more**].**
- **Fifth Category (G):** Disruption in a personal or professional functional accomplishment event.
  [At least one symptom must be present with a suffering level of four or more**].**

Self-Scoring Assessment

For self-scoring, put the number of symptoms of each category in the box below if the score is 2 and above.

First Category (B) Score =>2	Second Category (C) Score =>2	Third Category (D) Score =>2	Fourth Category (E) Score =>2	Fifth Category (G) Score =>2	Assessment Result
At least one symptom must be present here.	At least one symptom must be present here.	At least two symptoms must be present here.	At least two symptoms must be present here.	At least one symptom must be present here.	

Note: Regarding the fifth category (G), it is not necessary for the symptom to be present in this category if the required symptoms in the first, second, third, and fourth categories are present. Therefore, the psychologist can diagnose the client/case as PTSD

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