RESEARCH ARTICLE

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Multisystemic Therapy Intervention for Adolescent's Girls with Conduct Disorder Incarcerated in Selected Rehabilitation Centers in Kenya

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ABSTRACT

The aim of this study was to show efficacy of Multisystemic Therapy (MST) on conduct disorder among juvenile girls incarcerated in rehabilitation centers in Kenya. The study investigated effectiveness of MST on conduct disorder. It is important to note that behavioral and emotional problems are among the main occurring mental disorders among juvenile girls incarcerated at Kirigiti and Dagoretti rehabilitation centers. The study sample had a total of 78 purposely selected girls in the two rehabilitation centers. Social demographic questionnaires and Achenbach Youth Self – Report were administered to the respondents. The prevalence of conduct disorder was 55.%. In the experimental group, the study shows statistically significant difference in mean difference scores at both post-treatments one and two ($p<0.001$). This therefore is an indication that MST had an impact on post treatments one and two among the juvenile delinquents in the experimental group as opposed to control group. The results provide significant insights into effectiveness of MST on conduct disorder among juvenile girls incarcerated in rehabilitation schools.

Key words: Multisystemic Therapy, conduct disorder, Kirigiti, Dagoretti, Incarceration, Rehabilitation.

I. INTRODUCTION

There has been an increase in the need to use research evidence to guide psychotherapy. Psychotherapeutic evidence is becoming more client based. The purpose of this study was to subject Multisystemic therapy effectiveness in the interest of adolescent's girls with conduct disorder. This research article contributes to the ongoing debate about evidence-based practice appraising the effectiveness of Multisystemic therapy on treatment of conduct disorder among children and adolescents. The purpose of this study was therefore to approve or refute the premises that MST has effects on juvenile delinquency and especially girls with conduct disorder. The primary role of this study is to help psychotherapists apply evidence-based principles in treating adolescent girls with conduct disorder.

Conduct disorder constitutes a broad spectrum of acting out behavior ranging from relatively minor oppositional behavior such as yelling and temper tantrums, to more serious forms of antisocial behavior such as aggression, physical destructiveness and stealing (Zelechoski et al., 2013). Youth with conduct problems are at increased risk for manifestation of a variety of other adjustment problems as well (Ebesutani et al., 2011). The most important issue in most cases of adolescents with conduct disorder is the need for a comprehensive assessment (Jessica et al., 2014). Adequate assessment of a youth with conduct disorder should make use of multiple methods (e.g., interviews, rating scales and observation). Comprehensive assessments should include multiple informants (parents, teachers, youth) and concern multiple aspects of the child's or adolescent's adjustments e.g. (conduct disorder, anxiety, learning problems) in multiple settings (e.g., home, schools) (Jessica et al., 2014). Conduct disorder is highly prevalent among juveniles incarcerated in rehabilitation schools. Sexton (2011) noted that youth involved in juvenile delinquency have psychological comorbidity.

Psychological comorbidity may make treatment needs more complex. Studies show that people who started drinking at the age of 14 are five times more likely to become alcoholics than people who held off drinking until age 21 (Johnson et al., 2012). Johnstone et al.2012, noted that there was a direct influence on chemicals and minerals to the brain. It was therefore possible that early exposure of the brain to alcohol would affect the growth of the brain cells impairing learning and memory processes that protect against addiction and ultimately behavioral and emotional problems. Childhood aggression, theft and destructions along with related externalizing disorders such as CD and ODD are common among youth with substance use disorder (SUD) as well as among children of parents with the disorder (Vitulano et al., 2010). Some studies find that compared with other girls, early-maturing girls are at increased threat of various high-risk behavior such as substance abuse, running away, and truancy (Lafortune, 2010). For some adolescents, delinquency may be an attempt to achieve independence and autonomy from parental control and to evidence maturity in social realm. It is clear that factors such as economic disadvantage, exposure to violence, experiences with physical and sexual child abuse and maltreatment, and lack of positive parental supervision affect the development of delinquency for both girls and boys.

Juvenile girls incarcerated in rehabilitation centers in Kenya

Rehabilitation schools are established under part of the Children's Act 2001 (GoK, 2010). The Act states that it is the responsibility of the government of Kenya to establish schools for the care and protection of children. There are different categories of schools to cater for the children based on sex, age and purpose of placement. The first categories are rehabilitation schools. The main purpose of these rehabilitations school is to teach, train and rehabilitate children. Supervision of these schools is the responsibility of the director of children's services. The rehabilitation schools are geared towards crime prevention. They also impart offenders with life skills. The children's service department currently runs rehabilitation schools in Nairobi, Getathuru, Wamumu, Othaya, Likoni, Kericho, Kakamega, Kabete, Kirigiti and Dagoretti. Kirigiti and Dagoretti schools are for girls only while the other eight admit boys only. Rehabilitation schools admit children who are between 10 to 18 years. As they wait to be convicted or released by the court, they are taken to children's remand homes (Mugo et al., 2006). The second category of institution which was established by the Children's Act 2001 is Borstal institutions which admit children who are above the age of 15 years and ought to have committed serious crimes. These institutions are supervised by the Commissioner of Prisons. The last category is probation hostels which cater for the children who need care and protection. Probation hostels admits children who are between 10-18 years (Achieng, 2009).

II. METHODOLOGY

This study used quasi-experimental design with Kirigiti girls' rehabilitation school being an experimental site and Dagoretti the control centre. In the experimental site, the researcher administered MST and tested its efficacy in managing conduct disorder of girls incarcerated in the rehabilitation schools. The researcher did not administer MST to the control group, but psychoeducated respondents on behavioral and emotional problems after the study; quantitative methods were used. Kirigiti and Dagoretti have similar study population. After conviction, girls can either join Kirigiti or Dagoretti depending on availability of space; hence there is no significant difference between the two schools ($p<0.005$). The quasi-experimental research design used in the study enabled the researcher to compare the control and the experimental sites in order to determine the effectiveness of MST on conduct disorder. In order to mitigate the feelings of the girls where MST was not used, the researcher briefed the administration as well as the study participants.

The researcher purposively sampled the two girls' rehabilitation schools. After administering Youth Self-Report in the two schools, the researcher then randomly selected one school to be the control site while the other one was the experimental site by flipping a coin in the air; the head was experimental while the tail was to be the control. Each school had an equal chance of being selected as a control or experimental group by the researcher. After random selection, Kirigiti became the experimental site while Dagoretti was the control group. A total of 85 participants were enrolled in the two groups, namely Control (n=40) and experimental (n=45). All the participants participated in the study except for seven who dropped out, giving an attrition rate of 8.2%. Eventually, the experimental group had 38 respondents while control group had 40 respondents, making a total of 78.

The following instruments were used to collect data from the sampled respondents:

(i) Socio-demographic profile questionnaire
(ii) Achenbach Youth self-report 11-18years
(iii) Secondary data abstracted from admission files

Respondents in the experimental group were divided into groups. Each group had between 6-12 participants. The groups were homogeneous in terms of age as well as internalizing and externalizing problems they exhibited. Each group had twelve MST sessions all of which were administered within a span of about three months. The therapist also psych educated teachers and other non-teaching staff on how to interact with the adolescents incarcerated in the two schools.

After three and six months, YSR was re-administered to the respondents who qualified for the intervention in both the control and the experimental groups. Analysis was guided by baseline survey for both control and experimental schools. In order to determine the effectiveness of MST, the difference in the score of the behavioral and emotional problems was compared across the schools and within the schools at baseline, mid-line and end-line. Juvenile internalizing and externalizing problems were assessed with youth YSR. The YSR contains a list of 118 specific problems in children and adolescents. It has been standardized on a sample between 11 to 18 years, and consists of two broad scales that reflect externalizing and internalizing domains. The internalizing composite consists of the anxious, depressed, somatic complaints and social withdrawal subscale while the externalizing composite consists of the aggressive and delinquent behavior subscale. Internal consistency (>0.90), test-retest reliability. (0.86 – 0.90) and factorial validity were found to be good (Achenbach, 2001). The researcher used YSR to assess conduct disorder. Data analysis using SPSS version 25 to describe each category of DSM-V diagnosis of participants was done by summing up the responses to meet the DSM-V criteria for conduct disorder, Probability values of equal or less than 0.05 (≤ 0.05) was taken to be statistically significant.

MST is a pragmatic goal-oriented treatment that specifically targets those factors in each youth's social network that are contributing to his or her antisocial behavior (Sawyer & Borduin, 2011). Thus, MST interventions typically aim to improve caregiver discipline practices, enhance family affective relations, decrease the youth association with deviant peers, increase youth association with the prosocial peers, improve youth school or vocational performance, engage the youth in prosocial recreational outlets, and develop an indigenous support network of the extended family, neighbors, and friends to help caregivers achieve and maintain such changes (Sawyer & Borduin, 2011). MST is an intensive treatment program that focuses mainly on addressing the environmental systems that impact on the juvenile offenders such as, families, schools, teachers, neighborhoods and friends. MST recognizes that each system plays a critical role in a youth's world and each system requires attention when effective change is needed to improve the quality of life for the youth and their families. It works with offenders aged 10 to 18 years who have a very long history of arrests (Vitulano, 2010). MST clinicians work with parents and teachers to put them in control. The therapists work with the teachers to keep the adolescents focused on school. They may also introduce the youth to sports and recreational activities as alternative activities (Vitulano 2010).

III. RESULTS

The purpose of this study was to find out whether MST was effective in treating conduct disorder exhibited by girls in the experimental rehabilitation school. The results indicated that MST was effective in treating conduct disorder. Following the baseline recruitment, a total of 85 participants were enrolled in two groups, namely the control (n=40) and the experimental (n=45). All the participants participated in the study from the beginning to the end except for seven who left due to absenteeism, home visit, as well as sickness as a result of which there was an attrition rate of 8.2%. The control and experimental groups were comparable with respect to key socio-demographic characteristics as well as dependent variables at baseline.

Table 1.00: Mean Scores at Pre-Treatment and Post-Treatment at 3 Months and 6 Months for the Control and Experimental Groups for Conduct Disorders

	Mean scores (SD)		
	Pre-treatment/baseline	Treatment One/3 months	Treatment Two/6 months
Experimental (n=38)	7.2895 (4.99680)	6.0000 (3.77044)	5.0263 (2.25996)
Control (n=40)	7.3000 (3.70862)	6.7500 (2.72453)	6.8500 (3.44592)

Conduct disorder

Table 1.00 reveals a steady decline in the mean scores for the control and experimental groups at the repeated measures. The control mean scores declined from 7.3000 (SD±3.70862) at the baseline to 6.8500 (SD ±3.44592) at the post-treatment two. The experimental group mean scores declined from a baseline of 7.2895 (SD ±4.99680) to a post-treatment two of 5.0263 (SD ±2.25996). This shows a significant drop in mean scores between baseline and post-treatment one and post-treatment two in the experimental group as opposed to the control group. MST had an impact on the experimental group.

Table 2.00: Mean Outcome Difference Scores from Pretreatment to Post-Treatment at 3- Month and 6-Month Follow-Up for the Control and Experimental Groups for Conduct Disorders

	Mean difference scores (SD)				
	Pre-treatment	Treatment One	P-value	Treatment Two	p-value
Experimental (n=38)		1.28947 (2.38132)	P=0.002	2.26316 (3.61442)	P<0.0001
Control (n=40)		0.55000 (2.95218)	P=0.246	10.45000 (3.79575)	P=0.458

Table 2.00 demonstrates that sample paired T-test was used to determine the statistical significance in the paired mean difference scores between baseline and post-treatment one and post-treatment two. With regard to the control group, the study reveals mean difference scores between baseline and treatment one of 1.28947 (SD ±2.38132) and this was not statistically significant (p=0.246). At post-treatment two the mean difference scores were 10.45000 (SD ±3.79575) and this was not statistically significant (p=0.458). With respect to the experimental group, the study shows statistically significant difference in mean difference scores at both post-treatment one (p=0.002) and post-treatment two (p<0.0001) (Table 4.29).

Table 3.00 Effect Sizes from Pre-Treatment to Post-Treatment at 3- and 6-Month Follow-Up for the Control and Experimental Group for Conduct Disorders

	Pre/3-month post-treatment		Pre/6-month post-treatment	
	Effect sizes	95% CI	Effect sizes	95% CI
Experimental (n=38)	0.295	-0.687 – 1.277	0.591	-0.269 – 1.452
Control (n=40)	0.171	-0.533 – 0.85	0.127	-0.647 – 0.902

Table 3.00 shows effect size for both the control group and the experimental group at post-treatment one and post-treatment two for conduct disorder. With regard to control group, Cohen's d effect size value for post-treatment one (d=0.171) was very small while at post-treatment two (d=0.127) which was medium effect size. For the experimental group, very large effect sizes were noted at post-treatment one and post-treatment two. Cohen's d effect size value for post-treatment one (d=0.295) and post-treatment two (d=0.591) suggested a medium practical significance for the experimental group and these were statistically significant (Table 4.30). This shows MST having an impact at post-treatment one and post-treatment two among incarcerated adolescents in the experimental group.

IV. DISCUSSION

The findings of this study demonstrate that MST was effective in treating conduct disorder. It was noted that the effectiveness of MST was consistent with other studies. The current investigation demonstrates that MST treatment resulted in favorable effects on conduct disorder in adolescents receiving regular intervention in experimental groups, MST participants scored significantly lower on primary outcome measure on conduct disorder. Results also emphasize the importance of adherence to MST protocol in studies as evidenced from marked site differences. YSR rated adolescents significantly high on total internalizing problem scale in the experimental group as compared to the control group. It is possible that when people engage in open discussion and gain cohesion through the MST sessions, adolescents become less troubled and withdrawn.

The findings of this study suggest that MST can be recommended for adolescents incarcerated in rehabilitation centers (Ross et al., 2011). MST has been shown to have positive effects on improved emotional health, educational outcomes, family relations, and decreased conduct disorder (Well et al., 2010). Research by Henggler (2010) shows that MST is successful in achieving a number of service outcomes, including peer relations, reduced aggressive behaviour as well as decreased association with deviant peers. Outcomes for conduct disorder and delinquency have consistently favored MST compared to controls (Sexton, 2011). The results of this study indicate that MST is a well-established intervention for juvenile delinquents and adolescents showing behavioral and emotional problems (Well et al., 2010). The study set out to analyze the effectiveness of MST effectiveness in addressing behavioral and emotional problems. The research was adequate in terms of inclusion of experimental and control groups. MST programme adherence by clinicians has been positively associated with treatment effect (Costell et al., 2010).

Multi-systemic therapy can be adopted in all rehabilitation schools. A major focus of MST is to empower persons by providing them with skills needed to deal effectively with future challenges. Toward this end, treatment focuses on facilitating the development of social support network within the person's environment. As such, youth are taught requisite skills (e.g., assertiveness training, anger management) and linked with academic and vocational resources needed for long-term success. MST therapeutic contacts emphasize the positive and use of systemic strength as levers of change. This study may therefore stimulate clinical and epidemiological research on emotional and behavioral problems among adolescence in rehabilitation schools and community setting. Besides, there is need to be proactive in identifying emotional and behavioral problems among adolescence and youth in Kenya.

V. CONCLUSION

Multi-systemic therapy seemed to stipulate disparity in effectiveness between pre-intervention (baseline) and post-intervention (mid-line and end-line assessment). In conclusion, MST was efficacious since there was significant change that transpired among respondents with conduct disorder that was accredited to intervention. The research was adequate in terms of inclusion of experimental and control groups. MST programme adherence by clinicians has been positively associated with treatment effect. MST could be adopted in all rehabilitation schools. A major focus of MST is to empower persons by providing them with life skills needed to deal effectively with systems and future challenges. Toward this end, treatment focuses on facilitating the development of social support network within the person's environment and a pool of service provider. As such, youth are taught requisite skills such as assertiveness training, anger management which is linked to academic and vocational resources needed for long-term success. MST therapeutic contacts emphasize the positive and the use of systemic strength as levers of change.

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