

The unveiled Indian picture of adverse childhood experiences: Socio-demographic correlates among youth in Kerala

Deepa K. Damodaran
Bharathiar University
Coimbatore, Tamil Nadu

Varghese Paul K.
Department of Psychology
Prajyoti Niketan College, Pudukad, Thrissur, Kerala

The impact of adverse childhood experiences (ACEs) significantly determines whether an individual will be functional or dysfunctional in adulthood. The current study examines the prevalence and the socio-demographic correlates of ACEs. It also estimates the relative risk for ACEs and the risk for major depression in adulthood with respect to the significant socio-demographic factors. Data collected using a Demographic proforma and Childhood Experiences of Care and Abuse Questionnaire-2 from 600 youth, selected through multi-stage stratified sampling from selected educational institutions in Kerala, South India, were analyzed using SPSS-20. Descriptive and inferential statistics (Chi square test, Mann-Whitney U test, & Odds Ratio from Risk analysis) were used. ACEs were highly prevalent (91%) among youth and more than half of them had experienced three or more ACEs. In the case of ACE severity, gender was significantly associated with psychological abuse, physical abuse and sexual abuse. Males had exposure to more severe ACEs than females. The odds of having physical and sexual abuses, and risk for major depression in adulthood were significantly greater (two times) among males than females. Further, the odds of experiencing antipathy, sexual and psychological abuses (two times), physical abuse (three times), and, risk for major depression in adulthood (four times) were significantly greater among youth with family dysfunction than those without it. Irrespective of gender, Kerala's youth have exposure to multiple ACEs. However, males and those with family dysfunction are at greater risk (physical & sexual abuses, & major depression in adulthood). It highlights the need for specific efforts and policies for prevention of ACEs.

Keywords: adverse childhood experiences, child maltreatment, child abuse, mental health, youth

The adverse childhood experiences (ACE's) is an unfortunate reality in the lives of many individuals. These are capable of having serious impact on the health and well-being of the individual (Anda et al., 1999; Anda, 2009). ACEs are defined as "stressful or traumatic experiences in childhood. These may include one or more types of emotional, physical and or sexual abuse, and, physical and or emotional neglect. These can also arise from household dysfunction, due to substance misuse and or mental illness amongst family members, violent treatment of mother, separation or divorce of parents, imprisonment of family member" etc. (Qirjako, Burazeri, Sethi, & Miho, 2013).

Common and the more serious form of ACEs is child maltreatment. Child maltreatment includes all forms of physical and/or emotional ill-treatment, sexual abuse, neglect or negligent treatment or commercial or other exploitation of children. These types of experiences are capable of resulting in actual or potential harm to the child's health, survival, development or dignity. There are four kinds of child maltreatment: physical abuse; sexual abuse; emotional and psychological abuse; and neglect, which may occur isolated or in combination. 'Physical abuse' denotes "the intentional use of physical force that results in or has a high likelihood of resulting in harm for the child's health, survival, development or dignity. This includes hitting, beating, kicking, shaking, biting, strangling, scalding, burning, poisoning and suffocating." Much physical violence against children in the home is inflicted with the

object of punishing. 'Sexual abuse' consists of "the involvement of a child in sexual activity that he or she does not fully comprehend, is unable to give informed consent to, or for which the child is not developmentally prepared, or else that violates the laws or social taboos of society. Children can be sexually abused by both adults and other children who are by virtue of their age or stage of development in a position of responsibility, trust or power over the victim." 'Emotional and psychological abuse' entails "both isolated incidents, as well as a pattern of failure over time on the part of a parent or caregiver to provide a developmentally appropriate and supportive environment. Acts in this category may have a high probability of damaging the child's physical or mental health, or its physical, mental, spiritual, moral or social development. Abuse of this type includes: the restriction of movement; patterns of belittling, blaming, threatening, frightening, discriminating against or ridiculing; and other non-physical forms of rejection or hostile treatment." 'Neglect' involves "both isolated incidents, as well as a pattern of failure over time on the part of a parent or other family member to provide for the development and well-being of the child where he/she is in a position to do so in one or more of the following areas: health; education; emotional development; nutrition; and shelter, and safe living conditions" (Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002; NCRB, 2011).

ACEs have become a serious public health concern due to its pervasiveness, challenges posed, and harmful impressions on multiple dimensions of life. The issue of child maltreatment is complicated in a developing country like India when not much is known about the magnitude, trends and socio-economic links of the phenomena because India is home to 19 percent of the world's children. Reliable statistics on ACEs in the Indian context remain

Corresponding Author:

Deepa K. Damodaran, Research Scholar
Bharathiar University, Coimbatore, Tamil Nadu
E-mail: kdeepsin@yahoo.co.in

unavailable as there is lack of surveillance data base and systematic investigations using the umbrella term “ACEs”. The National Crime Records Bureau alone acts as a credible source of information on crime and maltreatment against children. Kerala is one of the most populated, educated states in India and the rate of maltreatment and total crimes committed against children is high. Although nationwide victimization rates show male predominance (59%), in Kerala, majority are females (56%) among child victims. According to NCRB data, as the age increases, so does the victimization rate among children (NCRB, 2011).

While 64 percent of incest victims in the country were children under 18 years, the situation was much worse (79%) in Kerala. When 1/5th of child rape cases in the country in 2012 were reported from Madhya Pradesh, more than 5 percent of cases were from Kerala (NCRB, 2011; 2012, 2013, 2015). According to ACHR report, the number of rape cases had increased by 336 percent since 2001 and the NCRB report for the year 2013 indicated an increase of 44.7 percent in child rape cases alone than the cases identified in 2012. As per the NCPCR data of 2013, child abuse had increased by 117 percent since 2009 (ACHR, 2013).

Empirical evidence shows that ACEs are global phenomena (Felitti et al., 1998; Chartier, Walker, & Naimark, 2010; Dube, Felitti, Dong, Giles, & Anda, 2003) and a serious concern for children, families, health professionals, law enforcement agencies, and the society as a whole. The landmark ACEs study exposed the relationship between various ACEs and current adult health and well-being (CDC, 2012). While most of the systematic investigations on ACEs come from developed countries, only a little is revealed about this social evil from developing and under developed countries like India. The first nationwide study (MoWCD, 2007) by the Government of India (n = 12,447) revealed the magnitude of the problem and the gender difference in the prevalence of child abuse in the country. According to the report, every second child in the country was sexually abused (Boys- 53%; Girls-47%) and 49 percent of the sample was emotionally abused. Commonest type of abuse was physical (69%) in nature, particularly among boys. The survey did not assess neglect among boys, however, nearly 71 percent of girls were victims of neglect within the family environment. Among states, Assam (57%) reported more cases of child sexual abuse followed by Delhi (41%), Andhra Pradesh (34%) and Bihar (33%). Several other investigations from different parts of the country including Kerala have also revealed the high prevalence of various ACEs such as childhood physical, sexual and emotional abuse, and, neglect (Zolotor et al., 2009; Devi, Sharma, & Shekhar, 2015; Charak & Koot, 2014; Singh, Parsekar, & Nair, 2014; Karthiga & Ravikumar, 2014; Harbishettar & Math, 2014; Nair et al., 2009; Damodaran, Rapheal, & Paul, 2014). Singh et al. (2014) found that India has the world's largest number of child sexual abuse cases and one in every ten children is sexually abused at some point of time in their life. Further, past investigations, particularly of retrospective design, have revealed greater prevalence of childhood adversities among females (Fergusson, Lynskey, & Horwood, 1996; Silverman, Reinherz, & Giaconia, 1996). However, very wide prevalence ranges of ACEs among boys and girls have also been reported by some studies (Springer, Sheridan, Kuo, & Carnes, 2003; Nurcombe, 2000). A few investigations (Nalini, Thirunavukarasu, & Dongre, 2013; Kumar, Satheesan, Geeta, & Kumar, 2014; Raj & Manikandan, 2013) have offered mixed results also.

From the above review, it is learnt that ACEs are highly prevalent.

Because of the risk ACEs poses to the physical and mental well-being of children and adults, it is imperative that ACEs indicators have to be well understood. However, the task becomes complex due to two reasons: first of all, there is no common definition of child abuse or child maltreatment or ACEs in the Indian context; secondly, a clear portrayal of the Indian scenario using the umbrella term 'ACEs' was missing. Nonetheless, considering the significance of the issue, a region wise estimation of prevalence of ACEs is crucial for better understanding of the burden in the country. Hence the current study is undertaken.

Aim of the study

The current inquiry attempts to estimate the prevalence of ACEs among Keralite youth and to find the socio-demographic correlates of ACEs. It also intends to estimate the risk for specific ACEs; and the risk for major depression in adulthood with respect to the significant socio-demographic factors.

Research questions

- How prevalent are adverse childhood experiences among Keralite youth?; and,
- Will there be significant relationship between ACEs and the socio-demographic factors?

Hypothesis of the study

There will be significant association between adverse childhood experiences and socio-demographic factors.

Method

The current study is based on the data from an epidemiological survey on ACEs held during February-June 2014 in Kerala as part of a doctoral investigation.

Participants

Resident youth (between 17 years & 24 years) from Higher Secondary schools and colleges (Arts & Science, Engineering, & Business) who could read and write Malayalam, the native language, were included. However, individuals with a history of mental illness or those who were receiving treatment for mental illness or those with an unstable medical condition were excluded from the study. Thus, 600 youth were chosen through multistage stratified sampling from 12 selected institutions (higher secondary schools and colleges) across all three zones (South, Central, & North) of Kerala.

Instruments

Data were obtained using (a) Demographic proforma, and (b) Childhood Experiences of Care and Abuse Questionnaire (CECA Q)-2 (Bifulco, Bernazzani, Moran, & Jacobs, 2005). Psychometric properties tested through a pilot study indicated the suitability of CECA Q-2 for the current study (standardized internal consistency estimates: .57 to .87).

Demographic Proforma: Data on age, gender, birth order, education type, family structure, domicile, marital status, education of mother and father, occupation of mother and father, family's monthly incom, and family dysfunction (substance use among family members, imprisonment of family member & domestic violence) were obtained in addition to their resident status, duration of stay in Kerala (in the case of migrants), past history of mental disorders,

information on current treatment for mental illness, and history of any unstable medical condition.

Childhood Experiences of Care and Abuse Questionnaire-2 (CECA Q-2) (Bifulco et al., 2005): The questionnaire version of the Childhood Experiences of Care and Abuse (CECA) interview (Bifulco, Brown, & Harris, 1994) was used to obtain data on ACEs. ACEs were operationally defined as “stressful or traumatic experiences of childhood that the youth might have experienced before their 17th birthday”. These included loss, antipathy and neglect, and, abuse (physical, sexual & psychological). Loss was defined as “death of any one parent or both before age 17 or continuous separation of the youth from parents in childhood”. Neglect was defined as “parent's disinterest in material care, health, schoolwork, and friendships” whereas antipathy included “the hostility, coldness, or rejection including 'scape goating' behaviour shown to the child by parents or surrogate parents”. Physical abuse was defined in terms of “hitting or punching or kicking or repeated attacks where implements such as belts or sticks are used with the possibility of causing harm”. Sexual abuse involved “physical contact or approach of a sexual nature by any adult to the child.” Psychological abuse comprised of “both isolated incidents, as well as a pattern of failure over time (e.g., the restriction of movement; patterns of belittling, blaming, threatening, frightening, discriminating against or ridiculing; & other non-physical forms of rejection or hostile treatment) on the part of a parent or caregiver to provide a developmentally appropriate and supportive environment.” The current study included all the subscales except the subscale for “support”. The tool consisted of likert scales (neglect, antipathy, & psychological abuse), dichotomous items (physical abuse & sexual abuse), and open ended questions. It also provided cut off scores for predicting major depression in adulthood. Apart from the score obtained on each subscales, an ACE score, based on the confirmatory response to ACEs categories, was also used. ACEs groups (No ACE group-0 ACE; Low ACEs group-1 or 2 ACEs; High ACEs group- 3 or more ACEs) were formed based on the number of types of ACEs, indicated by the ACEs score (Score range = 0-6). Cut-off scores for determining severity of ACEs and predicting major depression in adulthood (based on the score on each ACE) were also provided in the tool.

Participants received validated tools in the native language and the sample took approximately 30 minutes to provide data.

Procedure

Administrative permissions, ethical clearance from Ethics committee of Jubilee Mission Medical College Hospital and Research Institute, Thrissur, Kerala, informed written consent from participants, assent and parent's consent in the case of minors were obtained to meet ethical dimensions. After an initial introduction and instructions, survey forms were distributed to participants in their respective classes. Participation was voluntary and participants' identity was safeguarded by excluding their names from Demographic proforma.

Data were analyzed using SPSS version 20. The non-response rate was 22 %. Descriptive statistics to estimate the prevalence of ACEs, Chi square test to find the association between ACEs and socio-demographic variables, and, Risk analysis using cross tab to estimate the relative risk (odds ratio) of exposure to specific ACEs and the risk for major depression in adulthood (with respect to gender & family dysfunction) were applied for analysis. Analyses of severity

of ACEs and risk included only reported cases of ACEs (n=546). Mann-Whitney U test was used to compare differences between males and females on the score on ACE Severity from father and mother. Raw scores on ACE Severity hinted that as the score increases, so does the severity. Since the ACEs severity score was ordinal, but not normally distributed, Mann-Whitney U test was chosen.

Results

Table 1: Socio-demographic characteristics of the sample n=600

Sr.no	Socio-demographic variables	Total	
		n	%
1.	Sex		
	Male	346	57.7
	Female	254	42.3
2.	Mean age (\pm SD)	18.52 (\pm 1.32) years	
3.	Birth order		
	Eldest	248	41.3
	Neither eldest nor youngest	231	38.5
	Youngest	88	14.7
	Only child	33	05.5
5.	Education types		
	Higher Secondary school	152	25.3
	Arts and Science college	165	27.5
	Management college	162	27.0
	Engineering college	121	20.2
6.	Domicile		
	Rural	388	64.7
	Urban	212	35.3
7.	Zone/Region of Kerala		
	North	194	32.3
	Central	201	33.5
	South	205	34.2
8.	Monthly income of the family		
	Rs. 2000 - Rs. 10000	284	47.3
	Rs. 10001 - Rs. 25000	210	35.0
	Above Rs. 25000	106	17.7

In the current sample, majority were males (58%) and from rural areas (65%). The sample's mean age was (\pm SD) of 18.52 + 1.32 years. They were mostly eldest (41%) among children in their family. Majority (91%) had spent childhood with their biological parents. Parents of 3/4th of the sample (Father-76%; Mother-77%) were educated up to Higher Secondary or below and most of them were unemployed (Father-53%; Mother-82%). About half of the sample (47%) had a monthly family income between Rs 2,000 and Rs 10,000 (Table 1).

Analysis showed that there was high prevalence (91%) of ACEs with more than half (52%) of the sample having three or more ACEs. Only one in ten youth was free of any ACE. Neglect (77.3%) followed by antipathy (74.9%) and psychological abuse (66.5%) were more common, and, physical abuse (14.8%) was least prevalent (Table 2).

Among youth with ACEs, ACEs groups (based on the number of ACEs) had significant association with gender ($\chi^2_{(2,600)} = 6.38, p = .041$, Cramer's V = .103) and family structure ($\chi^2_{(2,600)} = 10.02, p = .007$, Cramer's V = .129) (Table. 3). Loss was significantly associated with family structure ($\chi^2_{(1,600)} = 47.77, p = .001$, Cramer's

Table 2: Prevalence of adverse childhood experiences (ACEs) n=600

ACEs	Total		Yes	
	n	%		
Number of ACEs				
0	54	9.0	Yes	100
1	90	15.0	Antipathy	18.3
2	144	24.0	No	137
3	184	30.7	Yes	409
4	96	16.0	Neglect	22.7
5	29	4.8	No	124
6	3	0.5	Yes	422
Type of ACEs			Psychological abuse	77.3
Loss			No	183
No	446	81.7	Yes	363
			Physical abuse	66.5
			No	465
			Yes	81
			Sexual abuse	14.8
			No	444
			Yes	102

Table 3: Association of Adverse Childhood Experiences (ACEs) with Socio-demographic characteristics n= 600

ACEs	Gender						χ^2	df	p	Cramer's V
	Male		Female		Total					
	n	%	n	%	n	%				
ACEs groups										
No ACE group	027	4.50	027	4.50	054	09.0				
Low ACEs group	124	20.7	110	18.3	234	39.0				
High ACEs group	195	32.5	117	19.5	312	52.0	06.38	2	.041*	.103
Physical abuse										
No	258	47.3	207	37.9	465	85.2				
Yes	061	11.2	020	3.70	081	14.8	11.94	1	.001***	.141
Sexual abuse										
No	271	45.2	227	37.8	498	83.0				
Yes	075	12.5	027	4.50	102	17.0	12.66	1	.001***	.145

χ^2 -Chi square test.

*p< .05 level; ***p< .001 level.

Table 3 (continued): Association of Adverse Childhood Experiences (ACEs) with Socio-demographic characteristics n= 600

ACEs	Family structure						χ^2	df	p	Cramer's V
	Single parent families & others		Intact two parent families		Total					
	n	%	n	%	n	%				
ACEs groups										
No ACE group	03	0.5	051	08.5	054	09.0				
Low ACEs group	13	2.2	221	36.8	234	39.0				
High ACEs group	41	6.8	271	45.2	312	52.0	10.02	2	.007**	.129
Loss										
No	29	4.8	471	78.5	500	83.3				
Yes	28	4.7	072	12.0	100	16.7	47.77	1	.000***	.282

Note χ^2 Chi square test

p< .01 level; *p< .001 level

Table 3 (continued): Association of Adverse Childhood Experiences (ACEs) with Socio-demographic characteristics n= 600

ACEs	Father's education						χ^2	df	p	Cramer's V
	College		HS or below		Total					
	n	%	n	%	n	%				
Antipathy										
No	56	09.3	135	22.5	191	31.8				
Yes	87	14.5	322	53.7	409	68.2	4.65	1	.031*	.088
ACEs	Mother's occupation						χ^2	df	p	Cramer's V
	Employed		Unemployed		Total					
	n	%	n	%	n	%				
Loss										
No	80	13.3	420	70.0	500	83.3				
Yes	31	05.2	069	11.5	100	16.7	12.44	1	.000***	.144

Note. χ^2 -Chi square test.

*p< .05 level; ***p< .001 level.

Table 3 (continued): Association of Adverse Childhood Experiences (ACEs) with socio-demographic characteristics n= 600

ACEs	Family dysfunction						χ^2	df	p	Cramer's V
	No		Yes		Total					
	n	%	n	%	n	%				
Loss										
No	161	26.8	17	02.8	178	29.7				
Yes	356	59.3	66	11.0	422	70.3	03.89	1	.048*	.081
Antipathy										
No	175	29.2	16	02.7	191	31.8				
Yes	342	57.0	67	11.2	409	68.2	06.99	1	.008**	.108
Psychological abuse										
No	213	35.5	24	4.0	237	39.5				
Yes	304	50.7	59	9.8	363	60.5	04.52	1	.034*	.087
Physical abuse										
No	458	76.3	61	10.2	519	86.5				
Yes	059	9.8	22	03.7	081	13.5	13.95	1	.000***	.152
Sexual abuse										
No	436	72.7	62	10.3	498	83.0				
Yes	081	13.5	21	03.5	102	17.0	04.70	1	.030*	.089

Note. χ^2 -Chi square test.

*p< .05 level; **p< .01 level; ***p< .001 level.

V = .282), mother's occupation ($\chi^2_{(1,600)} = 12.44$, p = .001, Cramer's V = .144), and family dysfunction ($\chi^2_{(1,600)} = 3.89$, p = .048, Cramer's V = .081). Antipathy showed significant association with father's education ($\chi^2_{(1,600)} = 4.65$, p = .031, Cramer's V = .088) and family dysfunction ($\chi^2_{(1,600)} = 6.99$, p = .008, Cramer's V = .108) whereas psychological abuse ($\chi^2_{(1,600)} = 4.52$, p = .034, Cramer's

V = .087) had association with family dysfunction only. Physical abuse ($\chi^2_{(1,600)} = 11.94$, p = .001, Cramer's V = .141; $\chi^2_{(1,600)} = 13.95$, p = .001, Cramer's V = .152) and sexual abuse ($\chi^2_{(1,600)} = 12.66$, p = .001, Cramer's V = .145; $\chi^2_{(1,600)} = 4.70$, p = .030, Cramer's V = .089) were associated with gender and family dysfunction.

Table 4: Association between Adverse Childhood Experiences (ACEs) (severity) and gender n= 546

Adverse Childhood Experiences (Severity)	Male (Mean Rank)	Female (Mean Rank)	Z	p
Antipathy				
Mother	281.90	261.69	-1.50	.134
Father	281.56	262.17	-1.47	.142
Neglect				
Mother	283.96	258.80	-1.87	.062
Father	278.54	266.42	-0.90	.368
Psychological abuse				
Mother	285.57	256.54	-2.19	.029*
Father	283.67	259.20	-2.01	.044*
Physical abuse				
Mother	284.90	257.48	-3.47	.001***
Father	284.14	258.54	-3.52	.000***
Sexual abuse	286.48	255.26	-3.35	.001***

Note.Z- Mann-Whitney U test. *p< .05 level; ***p< .001 level.

Table 4 indicates that severity of ACEs was significantly associated with gender in the case of psychological abuse (mother: $Z_{(546)} = -2.19$, $p = .029$; father: $Z_{(546)} = -2.01$, $p = .044$), physical abuse (mother: $Z_{(546)} = -3.47$, $p = .001$; father: ($Z_{(546)} = -3.52$, $p < .001$), and, sexual abuse

($Z_{(546)} = -3.35$, $p = .001$). Males had exposure to more severe ACEs in the case of antipathy and neglect even though it did not show statistical significance.

Table 5: Risk for specific Adverse Childhood Experiences (ACEs) (Types) and major depression in adulthood with respect to gender and family dysfunction n= 546

Adverse Childhood Experiences	Gender		Family dysfunction			
	^s OR	95%CI	p	^s OR	95%CI	p
Loss	1.14	0.73 - 1.78	.563	1.59	0.91-2.81	.101
Antipathy	1.04	0.71 - 1.54	.835	2.14	1.21-3.81	.008**
Neglect	1.11	0.74 - 1.66	.612	1.76	0.99-3.09	.048*
Psychological abuse	1.26	0.88 - 1.81	.203	1.72	1.04-2.86	.034*
Physical abuse	2.45	1.43 - 4.19	.001***	2.80	1.60-4.89	.001***
Sexual abuse	2.28	1.41 - 3.67	.001***	1.82	1.05-3.16	.03*
Depression Risk	1.65	1.13 - 2.41	.009**	3.58	2.22-5.76	.001***

^sOR-Odds Ratio from Risk analysis; CI- Confidence interval. *p< .05 level; **p< .01 level; ***p< .001 level.

The author may be contacted for details

Odds ratio from risk analysis was used to estimate the risk for specific ACEs; and the risk for major depression in adulthood with respect to gender and family dysfunction. The odds of having physical abuse (OR = 2.45, 95 % CI: 1.43 - 4.19, $p = .001$ level), sexual abuse (OR = 2.28, 95 % CI: 1.41 - 3.67, $p = .001$ level) and the risk for major depression in adulthood (OR = 1.65, 95 % CI: 1.13 - 2.41, $p < .01$ level) were greater (two times) among males than among females (Table 5). However, no statistically significant association was found between ACEs such as loss (OR = 1.14, 95 % CI: 0.73 - 1.78, $p = .563$), antipathy (OR = 1.04, 95 % CI: 0.71 - 1.54, $p = .835$), neglect (OR =

1.11, 95 % CI: 0.74 - 1.66, $p = .612$), psychological abuse (OR = 1.26, 95 % CI: 0.88 - 1.81, $p = .203$), and gender. Further, the odds of having antipathy (OR = 2.14, 95 % CI: 1.21-3.81, $p = .008$ level), neglect (OR = 1.76, 95 % CI: 0.99-3.09, $p = .048$ level), psychological abuse (OR = 1.72, 95 % CI: 1.04-2.86, $p = .034$ level), physical abuse (OR = 2.80, 95 % CI: 1.60-4.89, $p = .001$ level), sexual abuse (OR = 1.82, 95 % CI: 1.05-3.16, $p = .03$ level), and, the risk for major depression in adulthood (OR = 3.58, 95 % CI: 2.22-5.76, $p < .001$ level) were greater among youth with family dysfunction than among youth without family dysfunction (Table 5).

Discussion

Results show that nine out of ten youth had been exposed to adverse experiences in childhood and more than half of the sample had experienced three or more ACEs. These findings are in line with the findings from the extant literature and hint the seriousness of the issue. A retrospective study from Northern part of India revealed that seven out of ten youth in the sample had experienced some kind of ACEs. Considerable number of them had reported clustering of ACEs also (Saha, Giressan, & Deb, 2014). In a Kerala study among 1668 mothers (18-49 years), Nair et al. (2009). found that abusive child disciplining practices are common (62%) among mothers and physical abuse is the most common technique (50%) used. Results from other parts of India also projects a similar picture (MoWCD, 2007; Zolotor et al., 2009). ACEs are observed to be a global concern due to their long lasting negative influences on the individual's life and on the society at large (Damodaran et al., 2014; Green et al., 2010; McLaughlin, Green, & Gruber, 2012; Benjet, Borges, & Medina-Mora, 2010). In addition, past literature offers sufficient empirical evidence on the dose-response relationship of ACEs, i.e., the more number of types of childhood adversities, the greater the negative impact on the individual's later life (Anda & Felitti, 2006; Anda et al., 2007; Rosenman & Rodgers, 2006; McLaughlin et al., 2010).

Adverse Childhood Experiences (ACEs) and the socio-demographic correlates: Association between ACEs and socio-demographic factors in the current study reveals higher prevalence among male youth, youth from intact families, youth whose mothers were unemployed and fathers were less educated, and youth from dysfunctional families. Parental 'loss' was significantly associated with family structure and mother's occupation. This can be ascribed to the current sample's characteristics because majority of the youth were from intact families. Exposure to harsh parenting was more among youth of less-educated fathers and those who were from dysfunctional families. This finding is supported by extant literature. Factors such as rural residence, low parental education, parental unemployment, lack of adequate income, etc. are reported to be significant predictors of ACEs (Qirjako et al., 2013; Tobey, McAuliff, & Rocha, 2013). Association between ACEs types and socio-demographic factors shows more victimization among males with respect to childhood physical and sexual abuse in the current investigation. This has both supportive (Charak & Koot, 2014; Cawson, Wattam, Brooker, & Kelly, 2000) and contradictory (Reynolds, Temple, White, Ou, & Robertson, 2011; WHO, 2010) evidences in the literature. Charak and Koot (2014) provide supportive evidences from India by revealing higher rates of maltreatment, i.e., physical abuse (41%) and emotional neglect (60%)²⁰ with male predominance (3 times). As seen in the current investigation, there was equal vulnerability of boys and girls to have experienced neglect whereas boys had experienced more emotional abuse. Further, most of the studies on child abuse in India have focused on childhood sexual abuse. In an Indian qualitative study on media reports of child abuse, Nalini et al. (2013) found that abuse of girl children is reported more often than that of male children. However, Child Abuse Study (MoWCD) of 2007 revealed higher victimization rates among boys. In the current study, youth from dysfunctional families had experienced more hostile parenting, and exposure to child abuse (psychological, physical & sexual). Parental substance use, imprisonment of family member and domestic

violence often coexist with various childhood adversities. This finding is being supported by findings from many past studies (Brown, Cohen, Johnson, & Salzinger, 1998; Stith, 2009; Kumar, Kumar, Singh, & Kar, 2017).

Adverse Childhood Experiences (ACEs) in relation to Gender and Family dysfunction: In general, male youth in the current investigation had experienced more number of ACEs, particularly in more severe manner, than female youth. The odds of having sexual and physical abuse were two times more among males. Findings from extant literature remain inconclusive about the gender difference in the overall ACE prevalence. However, prevalence of specific ACEs indicates gender differences (Springer et al., 2003; Springer, Sheridan, Kuo, & Carnes, 2007). There are contradictory evidences also from past studies (Miles & Thomas, 2007; Hester, He, & Tian, 2009; Tang, 2006; Wang, Chen, & Ma, 2007; Radford, 2011). Although equal vulnerability has also been reported in some studies, e.g., Kellogg (2007) Indian investigators have revealed greater prevalence among boys (Tulir, 2006; MoWCD, 2007). Even though it is banned, Corporal punishment is still practiced (USDS, 2013) to discipline children in India. Social approval (Segal, 1995) for disciplining children through physical means may be the main reason this type of abuse. Whenever gender difference was the main focus of the research, greater prevalence of sexual abuse was found among boys than among girls (Miles & Thomas, 2007; Sun et al., 2008; Sun, Dong, Yi, & Sun, 2006; Zhao et al., 2010; Niu, 2010; Le & Blum, 2009). However, empirical evidences from different parts of India including Kerala have indicated equal vulnerability of children from both gender (Krishnakumar et al., 2008; Nair & Devika, 2014). Since past evidences remain inconclusive, further exploration through future studies is required to confirm the current findings. Socio-cultural practices regulating male female interactions, potential under reporting from females due to concerns about disclosure, chances of extra freedom being offered to boys and inadequate supervision by adults based on the assumption that they are not as susceptible to abuse as girls, etc. may be the reasons for higher incidence of ACEs among male youth. Further, youth with family dysfunction were found to be more vulnerable to ACEs than youth without family dysfunction. Hostile parenting and child abuse appear to be associated with familial issues in the current study. Anda et al. (2002) revealed that the risk of ACEs is more among individuals with family dysfunction. Adverse childhood experiences may be an indicator of family dysfunction. It is reported that individuals with ACEs are more likely to report more familial issues relative to those without ACEs (Anda et al., 2009).

Risk of major depression in adulthood among ACEs exposed in relation to Gender and Family dysfunction: The current findings indicated that odds of developing depression in adulthood due to ACEs are greater for males (two times) as compared to females. The link between depression in adulthood and ACEs has been under investigation for a very long time. It is learnt that negative cognitive schemata developed from negative childhood experiences are reactivated by stressors and result in development of depression. Depression, further, leads to formation of negative cognitive beliefs that increase the vulnerability to stress (Brown & Moran, 1994; Beck, Rush, Shaw, & Emery, 1979). Extant literature shows that depressed clients report more ACEs than non-clinical sample (Kessler, Davis, Kendler, 1997; Brown & Anderson, 1991; Mullen, Martin, Anderson, Romans, & Herbison, 1996). Among various ACEs, childhood sexual abuse (Weiss, Longhurst, & Mazure, 1999;

MacMillan et al., 2001) predicts greater risk for depression in adulthood, followed by physical abuse (Springer, 2007; Kessler et al., 1997). It should be noted that although these studies revealed gender differences in the prevalence of ACEs, a comparison was not made while predicting the depression. However, Juon and Ensminger (1997) predicted that boys who have a disadvantaged life in childhood are at greater risk for adulthood depression. It may be that females and males experience depressive or negative feelings at similar rates although they express these feelings differently (Nolen-Hoeksema, 1987; Tavris, 1992). While women direct their negative feelings inward, men have a propensity to externalize by engaging in action such as substance abuse, risk taking and violence. Women become passive, expressing symptoms of depression, and men become active, expressing symptoms of risk taking, violence, drug use, or a combination of these behaviors. Underrepresentation of girls in the sample might be a reason to be considered while interpreting current findings. It also warrants further research for validation of these findings. According to Anda et al. (2002), children living with alcoholic family members are more likely to have childhood adversities and the risk of depression in adulthood increases as the number of ACEs increases. Most of the past studies in ACEs have included family dysfunction as one of the adverse experiences in childhood and findings have shown that family dysfunction is one of the risk factors of depression in later life (Felitti & Anda, 2009; Chapman et al., 2004; Ferguson & Dacey, 1997; Goldberg, 1994; Kaufman, 1991).

Strength and limitations of the study

To the best of our knowledge, the current study is one of a few investigations conducted in the Indian context, by using an umbrella term 'ACEs. However drawing conclusions on gender differences requires careful consideration and analysis of issues related to the methodological features (e.g., Use of a foreign tool like CECA Q2, estimation of ACEs only based on their presence), sample characteristics (e.g., narrow age group, lack of representation from vulnerable groups or clinical population, underrepresentation of girls especially for risk analysis), and, other demographic characteristics (e.g., family structure) of the sample. Social and cultural characteristics that affect the perception and attitude of the individual towards ACEs might also have contributed to these findings. Figures obtained, particularly in the case of sexual abuse, are likely to be substantially under-estimated, as seen in other ACE studies (CDC, 2009). Potential underreporting from females might have occurred due to concerns about disclosure and this may require adequate strategies to improve disclosure. Lack of comparison between those with and without ACEs exposure on the risk of depression is an additional limitation of the study.

Implications and recommendations

Findings demonstrate usefulness of information on multiple forms of ACEs and extend this knowledge to practice to illuminate interplay of socio-demographic factors in the ACE exposure, management of victims, and for prevention of this social evil. Understanding factors that pose substantial risk for child development can be beneficial not only to mental health professionals but to child welfare agencies, policy makers, and others who work towards the welfare of children and their families also.

As negative childhood experiences affect individuals in multiple

ways mental health professionals need to adopt a holistic approach to client assessment and care. Psychologists are in an excellent position to: screen own clients for the history of adverse childhood experiences; educate public about available resources to prevent maltreatment of children; engage in general mental health promotion; and, foster resiliency and improved quality of life of children, particularly those who are vulnerable. Previous ACE exposure by male children is reported to be related to later perpetration against both females and males. So addressing ACEs among boys will be helpful in breaking cycles of abuse (Jewkes, Fulu, Roselli, & Garcia-Moreno, 2013; Fulu, Jewkes, Roselli, & Garcia-Moreno, 2013). Therefore, knowledge about ACEs and its link with various socio-demographic factors will aid in effective prevention of different types of ACEs. Findings also highlight the need to consider efforts and policies to address child protection and prevention of childhood adversities. Prevention of ACEs, particularly child maltreatment, should receive more attention with the evidences available now. In addition to the training of health professionals, school authorities, children, and, law enforcement personnel, parenting education and training may be a central component of the intervention programs.

Future research especially with large samples by including vulnerable groups will add more weightage to the evidences obtained. Cohort studies with children may offer opportunities to examine differences with respect to age groups, developmental stages etc. Very often, ACEs occur in different combinations and it should be seen in the framework of family values, relationships, social and family support, behaviour, conflict, parental health etc. Empirical studies on risk factors and processes in the environment will help to reveal underlying dynamic forces. Qualitative studies can provide in-depth exploration of multitude of factors operating in the occurrence of child maltreatment. Comparing the risk of depression in those with and without ACEs will help to develop policies and programs for prevention of ACEs and depression.

Conclusion

On the whole, current findings paint a picture of prevalence of adverse experiences in early life in relation to various socio-demographic factors among Keralite youth. Irrespective of their gender, Keralite children are vulnerable to adverse experiences. Males and those with family dysfunction seem to require more attention due to their elevated risk. However, while focusing on prevention, children with history of exposure to multiple adversities should be given high priority for early identification and relief to maintain the quality of their lives and to help develop as healthy, productive citizens.

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