

Sociodemographic outcomes of childhood trauma experiences among young adults in the rural community of South Africa

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Background: Childhood trauma is a moving target, as its negative effects extend beyond the immediate mental health of individuals and continue to affect the victim years after it has occurred.

Aim: The study aimed to determine the sociodemographic determinants of childhood traumatic events among young adults in the rural community.

Setting: The study was conducted in South Africa.

Methods: A quantitative, cross-sectional descriptive survey design was used to gather data among a sample of 380 participants in the rural community of the North West province. Data were collected using four sets of questionnaires to screen demographic determinants, childhood traumatic events and symptoms of depression and anxiety in the rural community of the North West.

Results: With the probability set at $p < 0.20$, the findings showed that sociodemographic outcomes associated with childhood traumatic events are level of education, employment status, planning children, residence within the rural community, substance use, religious beliefs and depressive and anxiety symptoms.

Conclusion: The findings of the study confirm that sociodemographic determinants are important factors in understanding the impact of childhood traumatic events.

Contribution: This insight highlights the need for screening of childhood traumatic events. Depressive and anxiety symptoms should be prioritised in health facilities in South Africa.

Keywords: sociodemographic outcomes; childhood trauma; childhood traumatic events; mental health; childhood trauma questionnaire; Patient Health Questionnaire-9 (PHQ-9); depression symptoms; anxiety symptoms.

Introduction

Childhood trauma (CT) is a global psychosocial and public health problem that affects individuals younger than 18 years of age, with serious and everlasting effects on the current and future well-being of the victim and the broader society (Swedo et al. 2023). Childhood traumatic events are common in high-, middle- and low-income countries (Manyema & Richter 2019). Globally, more than 60% of people have experienced at least one childhood traumatic event in their lifetime, and one in six individuals have experienced more than four childhood traumatic events in their life (Verma & Agrawal 2021). The World Health Organization estimates that almost 5 million deaths are caused by trauma (Wyatt et al. 2017), and all these deaths affect some children.

Childhood traumatic events are experiences of abuse, neglect and household dysfunction varying in severity, duration and frequency (Maepa & Ntshalintshali 2020). This includes directly experiencing trauma, witnessing trauma or learning about trauma that happened to a close friend or relative. Among children, bullying, motor vehicle accidents, child maltreatment (neglect, physical, emotional and sexual abuse) and exposure to community and domestic violence are the common types of traumas that often result in distress later in adolescence and adulthood (Svecova et al. 2023).

South Africa has a relatively high prevalence of childhood traumatic events (Mall et al. 2020), with a reported 73.8% of the general population in South Africa having experienced at least one

childhood traumatic event in their lifetime (Van Zyl et al. 2017). Children whose traumatic experiences have not received adequate attention in the form of specific interventions are at a higher risk of developing psychological conditions in adolescence and adulthood.

Peri-urban and rural communities in South Africa are especially characterised by psychosocial difficulties, physical violence, sexual violence and high prevalence of childhood traumatic events, because of high rates of violent crimes and makeshift houses within the community (Closson et al. 2016; Sharp et al. 2024). Children in these areas live in stressful environments characterised by racial discrimination and low socio-economic status, which increases their exposure to traumatic events in childhood (Liang et al. 2020).

Children exposed to trauma can experience delays in reaching their full potential, which can manifest as difficulties in learning at school, as well as problems with social, emotional and behavioural functioning (Frieze 2015).

Children who experience trauma are more likely to engage in risky sexual behaviours, such as engaging in alcohol and drug use, trading sex for money, having multiple sexual partners and experiencing intimate partner violence in adolescence (Calitz et al. 2014; Gibbs et al. 2018). Children may show symptoms such as replaying the trauma in play or behaviour, repeated memories of the event, distressing dreams, aggressive behaviour and negative thoughts about themselves and the future.

Although numerous studies have linked childhood traumatic events to several undesirable mental health outcomes in South Africa, there is a dearth of studies on interventions to combat the negative impacts of such events. Adequate social and family support is reported to mitigate the negative effects of trauma among children and young adults (Stansfeld et al. 2017). However, there is a need in South Africa to screen young adults for CT to better understand its sociodemographic determinants and impact, as a significant proportion of mental health disorders emerge during this period.

Research methods and design

Study design

A quantitative cross-sectional descriptive survey method was employed for this study to determine the prevalence and the sociodemographic determinants of CT among young adults. This design was applied to the study in order to analyse data at a single point in time (youth attending primary health services at clinics) and surveys to gather numerical data from a large sample, allowing for statistical analysis to identify patterns and trends of CT in the rural community of North West.

Population

The study was conducted among male and female young adults between the ages of 18 and 35 years who attended

primary health services in Moretele health sub-district, South Africa.

Study setting

The study was conducted in Moretele sub-district, which is a predominantly black residential area in the North West province. Five clinics, which included two 24h health centres, one 6day operating primary health clinic and two 5-day primary health clinics, were purposefully selected for the study. These clinics were specifically chosen because of the high influx of young adults attending the services provided, such as antenatal services, reproductive services, chronic services and youth zone services.

Sample size and sampling techniques

A survey of clinic attendees was conducted and purposefully selected from five clinics in a predominantly black African rural residential area in the North West province, South Africa. The estimated headcount population from the five clinics was 10000. Using the Raosoft sample size calculator (Raosoft Inc, Seattle, WA, United States), with a 5% margin of error, a 90% confidence level and a 50% response distribution, a minimum recommended sample size of 264 was calculated. The sample was buffered by 15% and increased to 303, but data were collected from 380 participants using purposive sampling, to intentionally select all young adults attending primary health services. Intentional oversampling was used to augment the minority group, which consisted of the participants who experienced CT in the general sample (Alkhawaldeh, Albalkhi & Naswhan 2023).

Data collection process and tools

Data were collected by the researcher and research assistants. On the day of data collection, the data collectors were given private rooms within the clinics. They introduced themselves to the potential participants, verbally explained the purpose of the study and provided an opportunity for the participants to ask questions or seek clarifications. When the potential participants were satisfied with the information and were ready to participate in the study, they were requested to provide written informed consent, which was followed by the administration of the childhood trauma questionnaire (CTQ), the Patient Health Questionnaire-9 (PHQ-9) and the Generalised Anxiety Disorder-7 (GAD-7) questionnaires. At the end of the session, the researcher and assistants kept the questionnaires for later analysis.

The CTQ, developed by Pennebaker and Susman, was the primary data collection tool for the study. It contains six early traumatic experiences (death, divorce, child abuse, sexual abuse, illness and others). The total scoring of this CTQ is 84 using a 1–7-point scale to measure the trauma and the extent to which trauma was confided to. A score of 21 and above is classified as having CT.

The CTQ is a globally accepted self-reported questionnaire that provides retrospective screening for a history of childhood abuse and neglect (Wang et al. 2022). In Africa, the tool has been used in South Africa (Spies, Kidd & Seedat 2019), and its reliability and validity have been well documented (Jiang et al. 2018).

The PHQ-9 was the second main data collection tool for the study. It is a globally used self-reported administered questionnaire with nine items used to detect and quantify the severity of depressive symptoms (Maroufizadeh et al. 2019).

The GAD-7 was the third data collection tool for the study. It is a short, self-administered questionnaire that comprises seven questions and uses a 0–3-point scale (feeling anxious, inability to control worry, extreme worry about different things, trouble relaxing, restlessness, easily annoyed and feeling afraid) to identify the presence and severity of anxiety symptoms (Kigozi 2021).

Data analysis

Data were captured on Microsoft Excel, cleaned up for incomplete questions, and then imported into Stata software (StataCorp 2015) for analysis. The demographic data were analysed descriptively, presented as tables and charts and shown as proportions and percentages. Descriptive statistics in the form of frequencies (*N*) and percentages (%) were used to describe the sample and to determine the prevalence of CT and its components. Fisher's exact test was used to illustrate gender differences because the data were not normally distributed, and some of the cells had values less than 5.

Multivariate logistic regression was used to test for the association between CT, depression and anxiety.

Ethical considerations

Ethical clearance to conduct this study was obtained from the Sefako Makgatho University Research Ethics Committee (SMUREC). The ethical clearance number is SMUREC/H/231/2023:PG. Furthermore, this study received permission from the provincial, district and sub-district levels of the Department of Health. Written informed consent was obtained from all participants. Confidentiality and respect were maintained throughout the administration of the questionnaires. No real names or any other identifiers were used to identify participants throughout the survey process.

Results

Description of sociodemographic determinants of childhood trauma

Table 1 reports demographic variables of participants by sex. The study included more female (90%) participants than male (10%) participants. In the current study, marriage rate was low among both females (89%) and males (97%), as both genders were not married. The majority of the participants

had completed high school (62% females and 49% males). The unemployment rate was high among both female (86%) and male (62%) participants. Planning of children in the study was vital for female participants, as 58% planned their children prior to giving birth, compared to 68% of males who reported their children were not planned. Christianity was the most followed religious group; 74% of females and 51% of males were Christians.

The types of childhood trauma experienced prior to the age of 18 years (*N* = 36)

Table 2 reports the types of CT that participants experienced; 36 participants had a score of 21 and above on the CTQ and 30% experienced death of a loved one or parents, 22% experienced divorce or separation of parents, 17% experienced sexual assault, 14% experienced child abuse, 11% experienced a major illness and 6% experienced a major upheaval.

Comparison of demographics of the adolescents by childhood trauma (*N* = 380)

Table 3 reports a comparison of variables with CT. Probability was set at $p < 0.20$. Only significant variables were included in the table: level of education, employment status, participants who had their children planned, those who resided within the rural community, substance use and religion. Depression and anxiety were the two mental health conditions that were associated with CT in this study.

Logistic regression model

Table 4 presents the results of the logistic regression analysis. Bivariate analysis was used to analyse sociodemographic outcomes associated with childhood, and five demographics had a p -value of less than 0.05. These were the level of education, having planned children, substance use, symptoms of depression and anxiety symptoms. An adjusted multivariate model was built to confirm the model's validity with associated variables. Results showed that the adjusted odds ratio (AOR) values and confidence interval (CI) ranges were as follows: level of education: AOR = 1.35; 95% CI: 0.68–2.69, planning of children: AOR = 0.045; 95% CI: 0.21–0.97, young adults who used substances: AOR = 1.50; 95% CI: 0.81–2.75, participants who had symptoms of depression: AOR = 3.08; 95% CI: 1.01–9.43 and anxiety symptoms: AOR = 2.42; 95% CI: 0.70–8.26.

Discussion

Social determinants of health are circumstances where people live, play, work and learn that affect health and outcomes in life (Johnson-Motoyama et al. 2022). In the current study social determinants of health that were associated with childhood trauma are; education, employment status, participants who planned their children, residence, substance use, religion, depression and anxiety.

TABLE 1: Sociodemographic characteristics of young adults by sex.

Variables	All <i>N</i> (%)		Female <i>n</i> (%)		Male <i>n</i> (%)		Fisher's test
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	
Age (years)							
18–24	162	43	148	43	14	38	0.602
25–35	218	57	195	57	23	62	-
Marital status							
Not married	340	89	304	89	36	97	0.154
Married	40	11	39	11	1	3	-
Level of education							
Primary school	129	34	114	33	15	40	0.121
High school	231	61	213	62	18	49	-
Tertiary school	20	5	16	5	4	11	-
Employment status							
Unemployed	321	84	298	86	23	62	0.001*
Employed	59	15	45	13	14	37	-
Recreational activities							
None	326	86	297	86	29	78	0.057
Sports	24	6	18	5	6	16	-
Community groups	30	8	28	8	2	5	-
Planning of children							
No	169	44	144	42	25	68	0.005*
Yes	211	56	199	58	12	32	-
Number of children							
< 2	304	80	270	79	34	92	0.001*
> 2	76	20	73	21	3	8	-
Social grants							
No	153	40	128	37	25	68	0.001*
Yes	227	60	215	68	12	32	-
Residence							
In moretele	308	81	277	81	31	84	0.826
Outside moretele	72	19	66	19	6	16	-
Who raised you?							
Nuclear family	304	80	278	81	26	70	0.131
Extended relatives	76	20	65	19	11	30	-
Substance use							
None	278	73	260	76	18	49	0.001*
Alcohol	89	23	78	22	11	30	-
Smoking	13	4	5	1	8	21	-
Religion							
None	92	24	78	23	14	38	0.002*
Christian	275	72	256	74	19	51	-
Muslim	2	1	2	1	0	0	-
African traditional	11	3	7	2	4	11	-
CT before 18 years							
Yes	36	9	31	9	5	14	0.377
No	344	91	312	91	32	86	-
Symptoms of depression							
Yes	45	12	41	11	4	1	1.000
No	335	88	302	80	33	8	-
Symptoms of anxiety							
Yes	31	8	29	7	2	1	0.754
No	349	92	314	83	35	9	-

Fisher's test, *, $p < 0.005$.

CT, childhood trauma.

Understanding these sociodemographic factors is imperative for the prevention of adverse events of CT in late adulthood.

Children and adolescents who experience trauma have difficulty in learning; trauma remains stressful for individuals, making it difficult for them to concentrate, causing an inability to concentrate and learn at school, resulting in poor academic performance (Singh 2024). In our study, there was a significant association between CT and the

level of education, similar to a few other studies (Fung, Chung & Ross 2020; Lecy & Oesteen 2022). The integration and collaboration of trauma-based interventions is essential in schools to identify learners at risk of CT, which may diminish school dropouts and poor academic outcomes.

Our results showed that individuals who were unemployed were more likely to have CT. This is in line with other research results where CT increased the risk of unemployment in later adulthood (De Vries et al. 2023;

Petersen et al. 2022). The stress sensitisation theory states that having experienced adverse childhood events reduces a person's ability to cope during stressful times, which may increase the risk of lower educational achievement because of stress, resulting in decreased economic productivity and unemployment during adulthood (Petersen et al. 2022).

Planning of children prior to their birth was associated with CT, similar to a study done where planning and having one child or two children was greatly associated with CT (Chamberlain et al. 2019; Tong et al. 2022). Prior to having children, adequate support from family, partner and friends may foster a positive approach and diminish the stress and worry associated with the trauma (Mathijssen, Dirks & Van Bakel 2024). Most parents with a history of CT are able to provide caring environments for their children; this is

because of being overprotective and choosing to parent differently from their previous experiences (Chamberlain et al. 2019).

Contrary to our study, a systematic review showed that mothers with a history of CT found themselves with unintended first pregnancies. This may be the result of a lack of social support, emotional regulation and modelling of healthy relationships to rely on.

The study was conducted in a rural community; staying and growing up in a rural community may predispose individuals and children with many adversities such as poverty, lack of access to resources, parental unemployment and lack of access to healthcare services that may impact their development and growth and increase the likelihood of children witnessing interpersonal violence, household accidents, etc. (Frost et al. 2024). Our study showed associations between CT and residence, which is in line with other studies that revealed that growing up in a rural setting was associated with CT (Frost et al. 2024; Hatcher et al. 2019).

Research reports that adolescents and young adults with CT engage in risky behaviours such as alcohol and drug use more than those without CT (Cheng et al. 2021; Meulewaeter, De Pauw & Vanderplasschen 2019; Rogers et al. 2023). This is consistent with our results as young adults with a history of childhood traumawere more likely to use

TABLE 2: Types of childhood trauma experienced prior to the age of 18 years ($N = 36$).

Category	Frequency (N)	Percentage (%)
Death of parents or loved ones	11	30
Divorce or separation of parents	8	22
Sexual abuse	6	17
Child abuse	5	14
Extreme illness	4	11
Major life-changing trauma	2	6
Total	36	100

Source: Childhood trauma questionnaire by Pennebaker, J.W. & Susman, J.R., 1988, 'Disclosure of traumas and psychosomatic processes', *Social Science and Medicine* 26(3), 327–332. [https://doi.org/10.1016/0277-9536\(98\)90397-8](https://doi.org/10.1016/0277-9536(98)90397-8)

TABLE 3: Comparison of demographics by childhood trauma ($N = 380$).

Variables	All n (%)		CTQ No n (%)		CTQ Yes n (%)		p-value
	n	%	n	%	n	%	
Level of education							
Primary school	129	34	121	35	8	22	0.110*
High school	231	61	207	60	24	67	-
Tertiary school	20	5	16	5	4	11	-
Employment status							
Unemployed	321	84	293	85	28	78	0.244*
Employed	59	15	51	15	8	22	-
Planning of children							
No	169	44	146	42	23	64	0.014*
Yes	211	56	198	58	13	36	-
Residence							
In moretele	308	81	276	80	32	89	0.207*
Outside moretele	72	19	68	20	4	11	-
Substance use							
None	278	73	256	74	22	61	0.108*
Alcohol	89	23	78	23	11	31	-
Smoking	13	4	10	3	3	8	-
Religion							
None	92	2	90	26	2	6	0.001*
Christian	227	60	197	58	30	83	-
Zion, Apostolic & Muslim	50	13	49	14	1	2	-
African traditional	11	3	8	2	3	8	-
Depression							
No	335	88	312	91	23	64	0.001*
Yes	45	12	32	9	13	36	-
Anxiety							
No	349	92	323	94	26	72	0.001*
Yes	31	8	21	6	31	28	-

CTQ, childhood trauma questionnaire.

Probability set at *, $p < 0.20$.

TABLE 4: Logistic regression analysis of sociodemographic factors related to experiences of childhood trauma among young adults.

CT	Unadjusted odds ratios			Adjusted odds ratios		
	OR	p-value	95% CI	AOR	p-value	95% CI
Level of education	1.886996	0.048	1.00–3.54	1.35868	0.379	0.68–2.69
Employment	1.641459	0.248	0.70–3.80	1.816841	0.214	0.70–4.65
Planning of children	0.4167765	0.016	0.20–0.85	0.4545207	0.042	0.21–0.97
Residence	0.5073536	0.215	0.17–1.48	0.7818156	0.671	0.25–2.43
Substance use	1.764383	0.047	1.00–3.08	1.500139	0.192	0.81–2.75
Religion	1.505634	0.085	1.16–2.39	1.93751	0.011	1.16–3.22
Depression	5.51087	0.001	2.54–11.91	3.089114	0.048	1.01–9.43
Anxiety	5.915751	0.001	2.52–13.87	2.421223	0.158	0.70–8.26

CT, childhood trauma; OR, odds ratio; CI, confidence interval; AOR, adjusted odds ratio.

*, $p < 0.05$.

substances than those without childhood trauma. It is found that people who experience trauma use substances as self-medication to reduce the pain of the trauma (Meulewaeter et al. 2019). The use of substances among adolescents and young adults reduces the ability to function socially, psychologically and physically over time. Social support in school and homes was found to diminish substance use among these groups (Cheng et al. 2021).

Religion and spiritual beliefs play an important role in how people react to CT. Individuals with a strong spiritual foundation have a sense of peace, better cognitive processes and a positive and strong behaviour, which foster identity formation and ethical development, thereby mitigating the effects of trauma later in adulthood (Nowicki et al. 2023; Tatala, Wojtasinski & Rynio 2024). The results of our research confirm this finding, as many young adults in the study were part of religious groups. The religious worship and prayers offered in Christianity and other religions, such as Islam, have been found to help ease the effects of trauma in survivors later in adulthood, yielding to a more positive mental health psychopathology and lowered anxiety (Kosarkova et al. 2020; Upenieks et al. 2024).

However, other studies documented negative religious emotions where people became angry with God for allowing CT to occur, seeing the trauma experience as punishment, feeling of abandonment by God and feeling that their sense of protection from God is threatened (Wolkinson & Weinberg 2023). Religion, therefore, plays an important role in reaction to trauma, and a high and positive religious foundation prior to and during CT has been linked to better mental health outcomes (Nowicki et al. 2023).

Experiencing internal trauma during childhood may affect brain functioning and lead to chronic and persistent negative emotions, which may manifest as depression if not given proper medical attention (Wang et al. 2023).

Depression and anxiety symptoms were associated with CT in the current study. Research studies show that chronic depression is linked to having experienced at least one type of childhood traumatic event, and a significant correlation between anxiety and CT has been noted (Kascakova et al. 2020; Li, Tu & Jiang 2022; McLaughlin et al. 2020).

The onset of poor mental health outcomes because of childhood traumatic events may result from a combination of poor brain processes, psychological factors, genetic predispositions and the environmental impact in later adulthood (Kuzminskaitse et al. 2021). Therefore, mental health assessment and screening for children and adolescents in health facilities is imperative to detect the onset of depression and anxiety symptoms before they develop into chronic conditions.

Recommendations

The administration and screening of the CTQ, PHQ-9 and GAD-7 forms in all primary health facilities will ensure early detection and management of CT, depression and anxiety among children, young people and other attendees. This will help provide proper interventions, such as counselling therapy, pharmacological therapy and referrals to mental health institutions, to all victims with signs of CT in order to prevent mental health disorders later in adolescence and adulthood.

Public health strategies focusing on child, adolescent and adult health should be given priority in all health facilities in South Africa.

Limitations of the study

The study was contextual in the North West in South Africa (Moretele sub-district); thus it may not represent the whole country. Childhood trauma is a sensitive aspect, and CTQ was used to recruit participants with CT from healthcare facilities only; therefore, the sample may not represent the whole population affected by CT.

Conclusion

In conclusion, CT is one of the most significant social and health burdens in South Africa as it affects many children before the age of 18 years, as well as adolescents and adults. Sociodemographic factors are associated with CT, and they are essential for identifying and understanding the impact and types of CT affecting individuals. The effects of CT may result in mental health psychopathology, such as depression and anxiety, later in life if proper interventions are not provided after the traumatic event.

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Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

CRedit authorship contribution

Bonolo Mmerekhi: Writing – original draft. Kebogile Mokwena: Supervision, Writing – review & editing. Mathildah M. Mokgatle: Supervision, Writing – review & editing. All authors reviewed the article, contributed to the discussion of results, approved the final version for submission and publication and take responsibility for the integrity of its findings.

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Data availability

The authors confirm that data supporting the findings of this study are available within the article. Raw data that support the findings of the study are available from the corresponding author, Bonolo Mmerekhi, upon reasonable request.

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