Suicide: Death caused by self-directed injurious behaviour with an intent to die as a result of the behaviour.

Suicide attempt: A non-fatal, self-directed, potentially injurious behaviour with any intent to die resulting from a self-directed injurious behaviour.

Suicidal ideation: Thinking about or considering killing oneself or planning suicide.

Definition (CDC, 2011)
Suicide Risk Factors: A complex interaction of individual, relationship, societal, and cultural factors that increase the risk for a child to commit suicide. These include: a history of abuse, previous suicide attempts, history of mental disorders (particularly depression), feelings of hopelessness, impulsive or aggressive tendencies, social isolation, loss of a loved one, and barriers to accessing mental health treatment. It is therefore important to strengthen protective factors such as increasing problem solving capacities in young people whilst promoting the development of supportive family and school environments.

Recommendations
The CDR project has identified key areas to strengthen efforts to reduce preventable child and adolescent suicide deaths. Interventions to reduce suicide should be multi-pronged to address risk and protective factors.

- The CDR data highlighted the importance of focusing on child and adolescent suicide as it provides us with insight into the problems facing this vulnerable age group. South Africa lacks a systematic exploration into this phenomenon for children; the routine analysis of mortality surveillance data will provide us with very reasonable estimates, but it needs to be combined with qualitative data to increase our understanding of the factors contributing to suicide among children.
- Suicide is a complex and multi-dimensional phenomenon with devastating consequences if inadequately managed. We found that many children suffered with mental health problems, but community mental health services are limited. It is important for a range of professions to address this issue with identity and manage risk young people. There is potential to use standardised suicide risk identification tools and to develop guidelines on depression management in primary care facilities for children and adolescents. Points of entry may be given by a range of social services practitioners. In the meantime, specialists should be working in partnership with community-based services to manage high-risk individuals in a task-sharing approach.
- Prevention efforts should focus on early detection and intervention and include targeted approaches to increase awareness of the suicide risk and its early warning signs. Educators, parents, and the wider community should be encouraged to be more active in promoting suicide prevention in collaboration with community-based advocacy groups such as the South African Depression Group and Childline South Africa, among others.
- Early intervention efforts should target at-risk children and adolescents to increase their coping skills and overall life skills. The potential exists to develop partnerships with the Department of Basic Education to strengthen the life orientation curriculum to tackle issues such as relationship building, conflict resolution, and peer pressure. Children should also be given information on the alternative pathways they could seek help from within the community. In addition, greater awareness needs to be given to the importance of identifying warning signs and patterns of behaviour in a supportive environment and to refer at-risk children to formal support services.
- The family can be a both a source of support and a distress for a young person. Families need to be made aware of the real risk of adolescent suicide particularly when a child suffers with mental health problems. Promoting open and continuous communications between parents and children is important to promote feelings of social connectedness which can serve as a protective factor in preventing suicide among young people.
- A combination of individual, relationship, societal, and cultural factors increase the risk for children to commit suicide. These include: a history of abuse, previous suicide attempts, history of mental disorders (particularly depression), feelings of hopelessness, impulsive or aggressive tendencies, social isolation, loss of a loved one, and barriers to accessing mental health treatment. It is therefore important to strengthen protective factors such as increasing problem solving capacities in young people whilst promoting the development of supportive family and school environments.
- The Child Death Review (CDR) project initiated by the Children’s Institute, University of Cape Town, in partnership with the Division of Forensic Medicine and Toxicology, University of Cape Town, is one such monitoring tool. The aim of the CDR project is to foster an international, collaborative approach to gather data on child death and attempting death and presenting to a medical-legal laboratory (mortuary) at the selected sites. At the core of the process is the multidisciplinary team with representatives from law enforcement, social services, health, forensic pathology and prosecution services who meet retrospectively to share case-specific information and calculate the childhood suicide rate.

Although this data only represents the City of Cape Town (CC) Metro West, it nevertheless is important as it can provide an understanding of the patterns of child suicides. We present the mortality-specific suicide rate for the City of Cape Town and compare this data to that for the national data for the City of Cape Town and Western Cape Provincial rates of suicide for the year under investigation. The data for the Western Cape province is derived from the routine mortality surveillance data collected by the Western Cape Department of Health. Furthermore, we present the pattern of suicide by gender and age count differences, methods of suicide, and associated case narratives to develop an understanding of the emerging contributing factors to suicide among children.

References
4. Martin LJ (2018) A profile of fatal injuries in an urban context. The Child Death Review (CDR) project initiated by the Children’s Institute, University of Cape Town, and partnered with the Division of Forensic Medicine and Toxicology, University of Cape Town, is one such monitoring tool. The aim of the CDR project is to foster an international, collaborative approach to gather data on child death and attempting death and presenting to a medical-legal laboratory (mortuary) at the selected sites. At the core of the process is the multidisciplinary team with representatives from law enforcement, social services, health, forensic pathology and prosecution services who meet retrospectively to share case-specific information and calculate the childhood suicide rate.

Allerdings, in den genannten Daten wird nur die Stadt Cape Town (CC) Weltweit, es ist wichtig, dass es Anhaltspunkte geben kann, um die Muster von Kindertod zu verstehen. Wir präsentieren die Mortalitätsspezifische Suizidrate für die Stadt Cape Town und vergleichen diese Daten mit den nationalen Daten für die City of Cape Town und Western Cape Provinzrate der Suizid für das Jahr der Untersuchung. Die Daten für die Western Cape Province werden aus der Routine-Mortalitäts-Beobachtungsdaten gesammelt durch den Western Cape Department of Health. Ferner präsentieren wir das Muster der Suizid durch Geschlechts- und Altersunterschiede, Methoden des Suizids, und die behandelten Fallberichte um ein Verständnis der emerging contributor factors to suicide among children zu entwickeln.

Tabelle 1: Child and adolescent suicide rates in CCT Metro West compared to overall CCT Metro and Western Cape suicide rate over four-year period

<table>
<thead>
<tr>
<th>Year</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
<th>Male/Male</th>
<th>Female/Female</th>
<th>Total/Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>3.2</td>
<td>2.8</td>
<td>6.0</td>
<td>3.2/3.2</td>
<td>2.8/2.8</td>
<td>6.0/6.0</td>
</tr>
<tr>
<td>2015</td>
<td>2.7</td>
<td>2.6</td>
<td>5.3</td>
<td>2.7/2.7</td>
<td>2.6/2.6</td>
<td>5.3/5.3</td>
</tr>
<tr>
<td>2014</td>
<td>2.7</td>
<td>2.6</td>
<td>5.3</td>
<td>2.7/2.7</td>
<td>2.6/2.6</td>
<td>5.3/5.3</td>
</tr>
<tr>
<td>2013</td>
<td>2.7</td>
<td>2.6</td>
<td>5.3</td>
<td>2.7/2.7</td>
<td>2.6/2.6</td>
<td>5.3/5.3</td>
</tr>
<tr>
<td>2012</td>
<td>2.7</td>
<td>2.5</td>
<td>5.2</td>
<td>2.7/2.7</td>
<td>2.5/2.5</td>
<td>5.2/5.2</td>
</tr>
</tbody>
</table>

Table 1: Child and adolescent suicide rates in CCT Metro West compared to overall CCT Metro and Western Cape suicide rate over four-year period.
Table 1: Child and adolescent suicide rates in CCT Metro West compared to overall CCT Metro and Western

<table>
<thead>
<tr>
<th>Year</th>
<th>Total CCT (per 100 000)</th>
<th>Mortuary-suicide rate (per 100 000)</th>
<th>Provincial suicide rate (per 100 000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>2.2</td>
<td>2.3</td>
<td>0.5</td>
</tr>
<tr>
<td>2015</td>
<td>2.6</td>
<td>3.8</td>
<td>1.3</td>
</tr>
<tr>
<td>2016</td>
<td>2.6</td>
<td>3.8</td>
<td>1.3</td>
</tr>
<tr>
<td>2017</td>
<td>2.6</td>
<td>3.8</td>
<td>1.3</td>
</tr>
</tbody>
</table>

This observed increase in suicide among children 10 – 17 years old is confirmed by the mortality-specific rates, which nearly doubled over the four-year period from 2.2 per 100 000 in 2014 to 6.0 per 100 000 children aged 10 – 17 years old in 2017. This increase is driven by an increase in suicide among younger adolescents aged 10 – 14 years, which doubled from 2.6 to 5.0 per 100 000 in 2014 to 5.2 per 100 000 children aged 10 – 14 years old in 2017. The increase in suicide among older adolescents were not as marked from 4.3 per 100 000 in 2014 to 7.3 per 100 000 children aged 15 – 17 years old in 2017.

The overall CTT Metro rate for adolescents (10 – 17 years) ranged from a low of 3.1 to a high of 1.0 per 100 000 children aged 10 – 14 years old in 2015, compared to a rate of 5.2 to 0.0 per 100 000 children aged 10 – 17 years old in 2016 for the CCT Metro West. The overall mortality rates are higher in the metro region than the provincial rates (1.1/100 000), which appear to be driven by higher rates of suicide in the metro area. Although this data only represents the City of Cape Town (CCT) Metro West, it nevertheless is an indicator of the burden of mental health distress among young people.

The Child Death Review Project (CDR) project is an on-going project that was initiated by the Children’s Institute, University of Cape Town. Its main objective is to develop and pilot an effective system of preventing preventable child deaths. In its annual reports, the CDR Project has identified key areas to strengthen efforts to reduce preventable child and adolescent suicide deaths. Interventions to reduce suicide should be multi-pronged to address risk and protective factors.

The CDR Project has identified key areas to strengthen efforts to reduce preventable child and adolescent suicide deaths. These include the following recommendations:

1. Early intervention efforts should target at-risk children and adolescents to increase their coping skills and overall life skills. The potential exists to develop partnerships with the Department of Basic Education to strengthen the life orientation curriculum to tackle issues such as relieving body pressure and peer pressure. Students should also be given information on the alternative places they could seek help from within the community. In addition, parents should be encouraged to identify warning signs and patterns of behaviour in a supportive environment and to refer at-risk children to mental health professionals for help.

2. The family can be both a source of support and stress for a young person. Families need to be made aware of the role of adolescent suicide in particular when a child suffers from mental health problems. Opening open and continuous communications between parents and children is important to promote feelings of social connectedness which can serve as a protective factor in preventing suicide among young people.

3. A comparison of individual, relationship, societal, and cultural factors increases the risk for a child to commit suicide. These include: a history of abuse, previous suicide attempts, history of mental disorders (particularly depression), feelings of hopelessness, impulsive or aggressive tendencies, social isolation, loss of a loved one, and barriers to accessing mental health treatment. It is therefore important to strengthen protective factors such as increasing problem solving abilities in young people whilst promoting the development of supportive family and school environments.

4. The Child Death Review Project (CDR) project is an on-going project that was initiated by the Children’s Institute, University of Cape Town. Its main objective is to develop and pilot an effective system of preventing preventable child deaths. The CDR Project has identified key areas to strengthen efforts to reduce preventable child and adolescent suicide deaths. Interventions to reduce suicide should be multi-pronged to address risk and protective factors.

5. The CDR Project has identified key areas to strengthen efforts to reduce preventable child and adolescent suicide deaths. These include the following recommendations:

   a. Early intervention efforts should target at-risk children and adolescents to increase their coping skills and overall life skills. The potential exists to develop partnerships with the Department of Basic Education to strengthen the life orientation curriculum to tackle issues such as relieving body pressure and peer pressure. Students should also be given information on the alternative places they could seek help from within the community. In addition, parents should be encouraged to identify warning signs and patterns of behaviour in a supportive environment and to refer at-risk children to mental health professionals for help.

   b. The family can be both a source of support and stress for a young person. Families need to be made aware of the role of adolescent suicide in particular when a child suffers from mental health problems. Opening open and continuous communications between parents and children is important to promote feelings of social connectedness which can serve as a protective factor in preventing suicide among young people.

   c. A comparison of individual, relationship, societal, and cultural factors increases the risk for a child to commit suicide. These include: a history of abuse, previous suicide attempts, history of mental disorders (particularly depression), feelings of hopelessness, impulsive or aggressive tendencies, social isolation, loss of a loved one, and barriers to accessing mental health treatment. It is therefore important to strengthen protective factors such as increasing problem solving abilities in young people whilst promoting the development of supportive family and school environments.
Patterns of child and adolescent suicide

We had more females (n=19) compared to males (n=13) who committed suicide over the four-year period. There were more female children aged 11-17 years, but in the older age group (15 – 17 years) there were no gender differences. Four times the number of female suicide cases (n=11) to male cases (n=5).

Over the four-year period, the leading method of death was hanging (n=19), followed by overdose or poisoning (n=16). A total of two cases of hanging were male and a total of five cases were female children. There were no cases of drowning or bodily impact. When a young person found themselves in the midst of a major crisis, suicide is not unusual. Research suggests that a previous suicide attempt is considered an important predictor for a life crisis such as the death of a loved one, and can result in feelings of hopelessness and depression, which can lead to suicide ideation. Access to mental health services and support to increase coping skills is critical to prevent suicide.

The most common method of suicide was hanging, which is in line with research from developed countries. The leading method of death among female children (n=10). Summer (n=5) and Autumn (n=6).

Importantly, all suicides occurred at home. The method of suicide is determined by the developmental phase of adolescents. Circumstances preceding suicide are illuminated by the case histories and highlights the complex nature of suicide. We found two distinct patterns. The first is the suicide event – suicide depression and anxiety medication, but died a day later. The family was left wondering what could have prevented her from self-harm and helping her to live another day. Research into adolescent suicide suggests that there is no clear contributing factor, but the following developmental phase of adolescents is important in understanding such suicides. It is not unusual for a young person to be in crisis, without a co-morbid psychiatric condition as an option. The lack of problem-solving ability and the inability to talk to others about their problems can lead to suicide being viewed as the only way to ease their pain and resolve the problem. Increasing coping and problem-solving skills is particularly important given the barriers to accessing mental health services in South Africa. Secrecy, the lack of trust, and the fear of being stigmatized by others have all contributed to this. Case study 2: Unidentified emotional distress of children

A 13-year-old female had an argument with her boyfriend. Her mother found her shouting and that she was playing truant and that she would punish him. The day before his death he posted on Facebook that he was thinking about suicide. When a young person finds themselves in the midst of a major crisis, suicide is not unusual. Research suggests that a previous suicide attempt is considered an important predictor for a life crisis such as the death of a loved one, and can result in feelings of hopelessness and depression, which can lead to suicide ideation. Access to mental health services and support to increase coping skills is critical to prevent suicide.

Case study 4: Loss and prolonged depression in young people

A mother found her 17-year-old, grade 12 student “snoring” in the late afternoon. Her daughter was last seen when she returned from school earlier that afternoon. She was rushed to the day hospital and transferred to the nearest large hospital where she was treated for an overdose of high blood pressure and amnestic medication, but died a day later. The family was left wondering what could have prevented her from self-harm and helping her to live another day. Research into adolescent suicide suggests that there is no clear contributing factor, but the following developmental phase of adolescents is important in understanding such suicides. It is not unusual for a young person to be in crisis, without a co-morbid psychiatric condition as an option. The lack of problem-solving ability and the inability to talk to others about their problems can lead to suicide being viewed as the only way to ease their pain and resolve the problem. Increasing coping and problem-solving skills is particularly important given the barriers to accessing mental health services in South Africa. Secrecy, the lack of trust, and the fear of being stigmatized by others have all contributed to this. Case study 2: Unidentified emotional distress of children

A young woman found her 16-year-old brother hanging in the suicide at their home. She had returned from school when she found his body. She reported that he had not been at school due to an argument with a friend at school, but was too afraid to tell her mother he was scared that her brother would find out about him. He was not well and that he would punish him. The day before his death he posted on Facebook that he was thinking about suicide. When a young person finds themselves in the midst of a major crisis, suicide is not unusual. Research suggests that a previous suicide attempt is considered an important predictor for a life crisis such as the death of a loved one, and can result in feelings of hopelessness and depression, which can lead to suicide ideation. Access to mental health services and support to increase coping skills is critical to prevent suicide.

Case study 1: Family conflict

A 13-year-old female had an argument with her boyfriend. Her mother found her shouting and that she was playing truant and that she would punish him. The day before his death he posted on Facebook that he was thinking about suicide. When a young person finds themselves in the midst of a major crisis, suicide is not unusual. Research suggests that a previous suicide attempt is considered an important predictor for a life crisis such as the death of a loved one, and can result in feelings of hopelessness and depression, which can lead to suicide ideation. Access to mental health services and support to increase coping skills is critical to prevent suicide.

Case study 3: Depression and anxiety in the context of child sexual abuse

A 16-year-old female was diagnosed with depression and anxiety at age 11 years and has been receiving treatment. Child sexual abuse can also be diagnosed at any age of five years. She has a history of sexual abuse at the age of five years and the length and duration of the abuse is unclear. The parents were separated and the child in the care of her father with the support of her grandmother. She had attempted suicide twice and was not taking her medication regularly. At her last counselling session, she was very depressed and requested assistance, but her mother felt she could be managed at home. She was discharged into care with a two-week follow-up appointment. Three days later she was found in bed by her grandmother and had taken an overdose of her depression medication. Additional medication for depression management in young people in the context of previous suicide attempts is critical to prevent the risk for suicide completion.
Patterns of child and adolescent suicide

We had more females (n=19) compared to males (n=13) who committed suicide over the four-year period. There were no differences in the gender of reported perpetrator who killed the child, but in the older age group (15–17 years) there were more females (n=11) who double the number of female suicide cases (n=10) that male cases (n=5).

Circumstances preceding suicide

The CDR process adopts a social autopsy approach, where the social contributors to a child’s death are discussed alongside the medical contributors. The review process gathers information about all factors and contributors which may have contributed to the medical, the history, police, and investigation and additional information obtained from the family, or the school. Each death is considered a sentinel event from which lessons can be derived to improve the health and the protection systems.

Case histories compiled through the CDR process were reviewed. All suicides were contributed to those suicide deaths in 13 cases (43%), females had no idea what contributed to the child’s suicide and suicide notes were left by the child, making it difficult to identify any contributing factors. In these cases, friends, family, and schools knew of any untoward or unusual situations. A state of hopelessness among children and adolescents had been found to be the main factor in suicide depression. When faced with a crisis, the child or adolescent who may have limited problem-solving capacity, suffering from hopelessness, must be identified as a contributing factor. The mental health among children and adolescents in South Africa is important to provide children with the necessary support to deal with a crisis.

Discussion

We found an increase in child and adolescent suicides at Salt River Mortuary for the 2014 - 2017 period. Globally, suicide among children and adolescents is the third leading cause of death with South Africa showing a similar increase. Although our study shows that suicide among children and adolescents is a rising trend, it is thought to be related to access to the means, thus the use of organophosphate poison for pest control by the City of Cape Town over the study period might be related to the suicide deaths contributing to the rise in the number of suicide deaths. Of concern is the leading role of females, which is supported by the National Injury Mortality Survey data and a comparative study across 10 countries among young people. The method of suicide is thought to be related to access to the means, thus the use of organophosphate poison for pest control by the City of Cape Town over the study period might be related to the increase in the use of the substance in a few suicide cases. According to the literature, there is strong support for the importance of suicide prevention with respect to method and therefore important to consider in reducing the risk of suicide.

Case study 3: Depression and anxiety in the context of child sexual abuse

A 16-year-old female was diagnosed with depression and anxiety at age 11 years and has been receiving treatment at a child mental health service for the past five years. She has a history of sexual abuse at the age of five years and the length and duration of the abuse is unclear. The parents were separated and the child in the care of her father with the support of her grandmother. She had attempted suicide twice and was not taking her medication regularly. At her last counselling session, she was very depressed and requested admission, but her family felt she could be managed at home. She was discharged into their care with a two-week follow-up appointment. Three days later she was found in bed by her grandmother and had taken an overdose of her depression medication. Additionally, she was admitted to the hospital for an overdose of tablets or toxic substances combination with no obvious contributing factor and no suicide note left to method of suicide and therefore important to consider in reducing the risk of suicide.

Case study 4: Loss and prolonged depression in young people

A mother found her 17-year-old daughter “dying” in the late afternoon. Her daughter was last seen on the day before at 6:00 pm playing outside. She was rushed to the hospital and transferred to the near-largest hospital where she was treated for an overdose of high blood pressure and anti-depressants, but died the day after. The family reported that she had become very depressed months before, started self-harming behaviour and lost weight after her father’s death 2 months prior to this incident. She also lost her grandfather over the past year and reportedly had relationship problems with her boyfriend. Her mother felt helpless in the face of her daughter’s suffering and had not seen a professional. Her mother finds themselves facing a life crisis such as the death of a loved one, can result in feelings of hopelessness and depression, which can lead to suicide ideation. Access to mental health services and support to increase coping skills is critical to prevent suicide.

behind to offer an explanation. Research into adolescent suicide suggests that where no clear contributing factor is identified, the developmental phase of adolescence is important in understanding such suicides. It is not unusual for adolescents to have a wide range of experiences without a co-ordinated psychiatric condition as an explanation. The lack of problem-solving ability and the inability to talk about others about their problems can lead to suicide being viewed as the only way to ease their pain and resolve the problem. Increased coping and problem-solving skills is particularly important given the barriers to accessing mental health services in South Africa. Sexuality, the narratives also highlighted the link between mental health problems and access to mental health services, and sexual and gender identity. The Association between depression, mood disorders, and substance use disorders is well established for suicidal and suicidal ideation in children and adolescents. Mental health needs have been highlighted, with a number of young people in therapy at the time of the incident, but of concern are the high-risk suicidal behaviours and the suicide risk. The high-risk suicidal behaviours and the suicidal ideation in children and adolescents are well established for suicidal and suicidal ideation in children and adolescents. Mental health needs have been highlighted, with a number of young people in therapy at the time of the incident, but of concern are the high-risk suicidal behaviours and the suicide risk. The high-risk suicidal behaviours and the suicidal ideation in children and adolescents are well established for suicidal and suicidal ideation in children and adolescents. Mental health needs have been highlighted, with a number of young people in therapy at the time of the incident, but of concern are the high-risk suicidal behaviours and the suicide risk.
Patterns of child and adolescent suicide

We had more females (n=19) compared to males (n=13) who committed suicide over the four-year period, which was not significantly different from previous cases, which reported a female to male ratio of 1.1:1. The method of death by gender, the most common method used by females was jumping off a building (see Figure 3). Comparing method of suicide to gender, the most common method of death among female adolescents (n=19) was jumping off a building (n=13), while the most common method of death among male adolescents (n=13) was hanging (n=10) with a similar number of previous suicide attempts.

Circumstances preceding suicide

The CDR process adopts a social autopsy approach, where the social contributors to a child’s death are discussed alongside the traditional medical contributors. The review process gathers information about all factors and social contributors that led to the death, as well as the medical history, police investigation, and additional information gathered at the scene of the incident. Each death is considered a sentinel event from which lessons can be derived to improve the health and education systems.

Case histories compiled through the CDR process were reviewed to determine which social contributors contributed to these suicidal deaths. In 13 cases (40%), females had no idea what contributed to the child’s suicide and no suicide notes were left by the child, making it difficult to identify any contributing factors. In these cases, families, friends, and educators were unaware of any emotional struggles the child might have been experiencing. Research from developed countries note that suicide in the absence of an underlying, overt psychiatric disorder is not unusual among children. A state of hopelessness among children and adolescents has been found to be associated with suicide (25). When faced with a crisis, the child or adolescent who may have limited problem-solving capacity, considers suicide as the only solution. This may also be the explanation in the seven cases (22%) where arguments or conflict at home or school preceded the adolescent who may have limited problem-solving capacity and their decision to method of suicide and therefore important to consider the developmental stage of adolescents, which is particularly important given the barriers to accessing mental health services in South Africa. Secondly, the method of suicide is important in understanding such suicides. It is not unusual to find a history of self-harm or suicidal ideation in children with no obvious contributing factor and no suicide note left behind to explain the death of a loved one, this can result in feelings of hopelessness and depression, which can lead to further ideation. Access to mental health services and support to increase coping skills is critical to prevent suicide.

Circumstances preceding suicide are illuminated by the case histories and highlights the complex nature of suicide. We found two distinct patterns. The first is the successful suicide attempt with no obvious contributing factor and no suicide note left behind to explain the death of a loved one, this can result in feelings of hopelessness and depression, which can lead to further ideation. Access to mental health services and support to increase coping skills is critical to prevent suicide. The second pattern is suicide attempts in the context of mental health problems.

The method of suicide among young people is influenced by the social environment and the development of the psychological concept of being a child. Suicide is a complex phenomenon that is difficult to understand and can have multiple contributing factors. It is important to identify and understand the factors that contribute to suicide in order to prevent it.

Discussion

We found an increase in child and adolescent suicides at Salt River Mortuary for the 2014 – 2017 period. Globally, suicide rates among young people are increasing in many countries among young people, which is consistent with findings from other local and international studies. An overdose of tablets or toxic substances was found in six cases (18%), and in another five cases the family knew the child was planning to commit suicide. When a young person finds themselves in the midst of a major crisis, suicide is viewed as the only way to ease their pain and resolve the problem. Arguments or conflict at home or school are important in understanding such suicides. It is not unusual to find a history of self-harm or suicidal ideation in children with no obvious contributing factor and no suicide note left behind to explain the death of a loved one, this can result in feelings of hopelessness and depression, which can lead to further ideation. Access to mental health services and support to increase coping skills is critical to prevent suicide.

Case study 1: Family conflict

A 13-year-old female had an argument with her parents and ran away from home. She and her mother argued over her school performance and grades, and the family was planning to go on a vacation the next day. She left her home and was found hanging from a tree after being left to run errands shortly thereafter. The child was left at home with an older brother. When the mother returned home she found her sleeping in her room. Later that afternoon when the mother went looking for her, she found her hanging from a tree. The mother found her empty blood pressure monitor in the child’s bedroom, the family and school maintained that the child was well-adjusted with no mental health issues, yet on inquiry she attempted suicide a few months prior to this incident. The child and family were not referred for any counseling with the suicide attempt and the mother claims that the child promised not to do it again. This highlights the importance of strengthening relationships between parents and children with a focus on communication, while also increasing the coping skills of young people to prevent further suicide attempts.

Case study 2: Unidentified emotional distress of children

A young woman found her 10-year-old brother hanging in the suicide attempt at their home. She had returned from school when she found her body. She reported that he had not been attending school due to an argument with a friend at school, but was too afraid to tell his mother he was scared that his mother would find out about him. She added that he was sad and that she worried about him. The day before he died he posted on Facebook that he was planning to commit suicide. When a young person finds themselves in the midst of a major crisis, suicide is viewed as the only way to ease their pain and resolve the problem. Arguments or conflict at home or school are important in understanding such suicides. It is not unusual to find a history of self-harm or suicidal ideation in children with no obvious contributing factor and no suicide note left behind to explain the death of a loved one, this can result in feelings of hopelessness and depression, which can lead to further ideation. Access to mental health services and support to increase coping skills is critical to prevent suicide.

A 13-year-old female had an argument with her parents and ran away from home. She and her mother argued over her school performance and grades, and the family was planning to go on a vacation the next day. She left her home and was found hanging from a tree after being left to run errands shortly thereafter. The child was left at home with an older brother. When the mother returned home she found her sleeping in her room. Later that afternoon when the mother went looking for her, she found her hanging from a tree. The mother found her empty blood pressure monitor in the child’s bedroom, the family and school maintained that the child was well-adjusted with no mental health issues, yet on inquiry she attempted suicide a few months prior to this incident. The child and family were not referred for any counseling with the suicide attempt and the mother claims that the child promised not to do it again. This highlights the importance of strengthening relationships between parents and children with a focus on communication, while also increasing the coping skills of young people to prevent further suicide attempts.

Case study 3: Depression and anxiety in the context of child sexual abuse

A 16-year-old female was diagnosed with depression and anxiety at age 11 years and has been receiving treatment for several years. Child sexual abuse is defined as sexual contact with a child under the age of five years. She has a history of sexual abuse at the age of five years and the length and duration of the abuse is unclear. The parents were separated and the child in the care of her father with the support of her grandmother. She had attempted suicide twice and was not taking her medication regularly. At her last counselling session, she was very depressed and requested admission, but her family felt she could be managed at home. She was discharged into care with a two-week follow-up appointment. Three days later she was found in bed by her grandmother and had taken an overdose of her depression medication. At the time of the incident she was regularly attending therapy at the time of the incident, but of concern are unmet mental health needs.

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Case study 4: Loss and untreated depression in young people

A mother found her 17-year-old, grade 12 student “aing” in the last afternoon. Her daughter was last seen in the school playground the day before. She was rushed to the day hospital and transferred to the nearest large hospital where she was treated for an overdose of high blood pressure and anxiety medication, but died a day later. The family maintained that their daughter had no history of mental health issues, yet on inquiry she attempted suicide a few months prior to this incident. She also lost her grandfather over the past year, a dearly held relationship, who had been going to counseling for past five years. She has a history of sexual abuse, and family conflicts. The association between depression, mood disorders, and suicide and substance use disorders is well established for suicidality and suicide rate in children (26). Recent mental health needs have been highlighted, with a number of young people in therapy at the time of the incident, but of concern are unmet mental health needs. She found her death to be a result of suicide, but was to all intents and purposes a preventable suicide. The child had a number of unmet mental health needs and was not receiving required help. A previous suicide attempt without intent was an important factor for completed suicides and these children should be considered high-risk. Suicide education reflects underlying conflicts that require urgent attention and careful follow-up to prevent repeats. In this case, the additional loss and relationship managing depression in young people in the context of previous suicide attempts is critical to prevent the risk for suicide completion.
Suicide is a complex and multi-faceted phenomenon with devastating consequences if inadequately managed. The CDR data has highlighted the importance of focussing on child and adolescent suicide as it provides us with insight into the problems facing this vulnerable age group. South Africa lacks a systematic exploration into the problem area for children; the routine data collected by the national mortality surveillance system will probably not provide us with the necessary numbers, but it needs to be combined with qualitative data in order to increase our understanding of the factors contributing to suicide among children.

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Results
We found a total of 32 suicide cases over the four-year study period. Figure 1 shows that suicide among children declined from a low of five cases in 2015 to ten cases in 2016 and increased to 11 cases by 2017.

Figure 1: Number of suicide cases per year at Salt River Mortuary (Suicide Mortuary Project,2017).

Table 1: Child and adolescent suicide rates in CCT Metro West compared to overall CCT Metro and Western Cape suicide rates over four years.

<table>
<thead>
<tr>
<th>Year</th>
<th>Suicide (per 100 000)</th>
<th>Suicide Mortuary (per 100 000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>6.3</td>
<td>6.3</td>
</tr>
<tr>
<td>2015</td>
<td>2.6</td>
<td>2.6</td>
</tr>
<tr>
<td>2016</td>
<td>5.6</td>
<td>5.6</td>
</tr>
<tr>
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</tr>
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These observed increases in suicide among children 10 – 17 years old is confirmed by the mortality-specific rates which nearly doubled over the four-year period from 3.2 per 100 000 in 2014 to 6.1 per 100 000 children aged 10 – 17 years old in 2017. This increase is driven by an increase in suicide among younger adolescents aged 10 – 14 years, which doubled from 3.6 per 100 000 in 2014 to 2.6 per 100 000 children aged 10 – 14 years old in 2017. The increase in suicides among older adolescents were not as marked from 4.3 per 100 000 in 2014 to 7.3 per 100 000 children aged 15 – 17 years old in 2017.

The overall CCT Metro rate for adolescents (10 – 17 years) ranged from a low of 3.8 to 6.1 per 100 000 children aged 10 – 17 years in 2016 to 2017, respectively. The overall suicide rate for adolescents in 10 – 17 years for 2016 was 4.3 per 100 000 children aged 10 – 17 years old for 2016 for CCT Metro West. The overall suicide rates are higher in 10–19 year olds than the provincial rates (5.1/100 000), which appear to be driven by higher rates of suicide in the metro.

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Discussion
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