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Compassion fatigue among oncology staff at Universitas Academic Hospital Annex

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Background: Compassion fatigue (CF) and burnout are prevalent in the field of oncology, particularly among nurses and oncologists. Compassion fatigue is the physical, emotional and mental exhaustion caused by continuous exposure to the suffering of others, while burnout describes the feeling of being overwhelmed or unable to meet one's work demands. Both negatively impact well-being. Contributing factors include trauma, job stress and a lack of support. Contrastingly, compassion satisfaction is the sense of fulfilment when one's needs and expectations are met, helping mitigate negative effects.

Aim: This study aimed to examine the prevalence of CF, satisfaction and burnout among clinical oncology staff.

Setting: Universitas Academic Hospital Annex in the Free State province, South Africa.

Methods: An analytical cross-sectional design was employed. Data were collected using the Compassion Satisfaction/Fatigue Self-Test for Helpers over 7 weeks. Participants included oncologists, nurses, radiographers and other clinical staff who responded willingly, anonymously and under implied consent.

Results: Ninety-four responses were included in the analysis. Most participants showed an extremely high risk of CF (97.2%), low potential for compassion satisfaction (81.3%) and extremely low risk for burnout (57.3%). Nurses and radiographers had the lowest potential for compassion satisfaction and were at the highest risk of CF.

Conclusion: Clinical oncology staff at Universitas Academic Hospital annex experienced high levels of CF, low potential for compassion satisfaction and comparatively low levels of burnout.

Contribution: This study has provided insight into the occurrence of CF, burnout and compassion satisfaction by clinical oncology staff, highlighting the need for intervention.

Keywords: compassion fatigue; oncology; burnout; compassion satisfaction; well-being.

Introduction

Cancer care is inherently demanding, as oncology professionals are frequently exposed to severe illness, patient suffering and end-of-life care. The nature of oncology involves prolonged patient relationships, complex treatment decisions and challenging communication with patients and families, which makes oncology a psychologically stressful area of healthcare. Oncology services are regularly delivered through multidisciplinary teams that collaborate to provide comprehensive care. While this approach improves treatment, it also means multiple members of the healthcare team are exposed to emotional challenges.

Compassion fatigue (CF) describes the negative impact of the 'cost of caring' on the emotional, physical, and psychological well-being of 'helping professionals',[1] who are tasked with helping or caring for people. Compassion fatigue manifests as 'a state of exhaustion and dysfunction'[2] caused by prolonged engagements with people in distress.[1,3] Burnout (BO) is the experience of exhaustion and discontentment that develops over time due to occupational stress.[3] In some instances, symptoms of BO may include emotional exhaustion, scepticism and hopelessness.

The terms BO and CF have been used interchangeably, and studies have found a positive correlation between the two,[4,5] but it is important to note that they are not the same.[3,4,5] Burnout, as mentioned previously, occurs over time, while CF manifests abruptly, causing emotional and physical exhaustion, detachment, a sense of helplessness, desensitisation, and a lack of empathy.[3] Compassion fatigue may also be referred to as a secondary stress response due to its association with workplace-related conditions. Compassion satisfaction (CS), on the other hand, is the

experience of positive emotions and a sense of fulfilment associated with caring for people.[6] It has been proven to have a positive impact on the emotional, social and spiritual well-being of clinical professionals.[6]

Although the emotional impact of working in professions focused on caring for people is expected to some degree, it is problematic when this impact negatively influences the mood and well-being of these professionals. Compassion fatigue can result in poor work performance and have negative consequences for the organisation, such as absenteeism, patient dissatisfaction or high staff turnover.[1] Professionals in the field of oncology are especially at risk of developing CF due to their daily interactions with patients who are suffering the 'physical, emotional and spiritual traumas' caused by cancer and cancer treatment.[1] Yet, despite the potential dire consequences of CF, research focusing on its impact on medical professionals in oncology departments is somewhat limited. Much of the current literature focuses mainly on oncology nurses rather than whole oncology teams. Such research has also shown varying results. In India, for example, moderate levels of CF and BO were reported by oncology medical professionals across the board, with nurses proving to be at greater risk of developing both CF and BO.[7] In Istanbul, high levels of BO were also reported, but both nurses and doctors exhibited higher levels of BO and lower levels of job satisfaction compared to other health professionals (e.g. radiation technicians) working in the same oncology centre.[8] Among oncologists in Israel, high levels of CF and BO were also reported, but this did not prevent them from experiencing high levels of CS too.[9] In contrast, a study conducted in KwaZulu-Natal, South Africa, across three healthcare facilities found that oncologists and oncology nurses experienced low to moderate levels of CF.[10] Notably, however, this study was conducted during the coronavirus disease 2019 (COVID-19) pandemic, which may have affected the results since health services in several departments, such as oncology, were kept to a minimum, thus reducing participant workload, occupational stress and exposure to suffering and dying patients.[10]

Previous studies on medical staff (especially oncology nurses) also show varying results on the relationship between CF, BO and CS. Some studies, for example, have reported on medical professionals' experiences of moderate to high levels of BO and/or CF, which had little effect on CS.[7,11,12] Other studies, however, show that there is a negative correlation between medical professionals' experience of CF and CS. A study from Jordan, for example, found a significant negative correlation between compassion satisfaction and CF experience by oncology nurses.[4] In this study, low CS scores were reported, emphasising the association between a lack of sleep and decreased levels of CS.[4]

Oncology nurses appear to be at greater risk of CF when compared to other medical professionals, although oncologists have also demonstrated moderate to high levels of CF across multiple studies.[7,8,9] In four studies focusing specifically on nursing staff, CF was attributed to factors such as repetitive exposure to trauma, pain, grief and prolonged time with patients and family members.[5,7,11,12] Extended periods spent with suffering and dying patients and family members have consistently emerged as factors contributing to the experience of CF among oncology nurses.[5,7,11,12]

Oncology nurses have also identified personnel shortages, conflict with colleagues and a lack of managerial support as factors that contribute to their increased risk of CF and BO.[4] Other studies have also identified job-related factors such as the complexity of the healthcare system and lack of organisational structure as some of the stressors contributing to burnout.[8]

Interventions to reduce CF and burnout that have shown positive results are the practice of mindfulness, daily meditation and group support sessions.[11]

The availability of articles exploring CF among oncology professionals in South Africa is limited, especially those employing a multidisciplinary approach. There is thus a significant gap in the literature which warrants further investigation. This study aims to fill part of this gap by utilising the Compassion Satisfaction/Fatigue Self-Test for Helpers,[13] and distributing it to the clinical staff employed at Universitas Academic Hospital Annex in the Free State as explained further below.

Aim of the current study

The aim of this study is to explore the prevalence of CF, CS and BO among the clinical staff of the oncology department at Universitas Academic Hospital Annex in the Free State province, South Africa. The objectives of the study included assessing the risk levels of clinical oncology staff for CF and BO, as well as their potential for CS. Additionally, the researchers sought to identify which clinical professionals are most at risk of CF and BO.

Methods

Study design

An analytical cross-sectional design was employed, with a standardised questionnaire, the Compassion Satisfaction/Fatigue Self-Test for Helpers.[13] The questionnaire was developed by Stamm as a standardised tool to assess the positive and negative effects of helping others.[14] The Self-Test is a validated self-report tool and is widely used in healthcare research, including oncology, and has demonstrated acceptable reliability in diverse settings, supporting its suitability for this study.[15]

The researchers used an analytical cross-sectional study to systematically collect new, real-time data from a defined group of participants without existing records to measure and analyse numerical variables at the time of collection.[16] The questionnaire was self-administered to the clinical oncology staff at the research site. It consisted of 66 questions that measured and determined the levels of CF, BO and CS

that clinical staff experience. The questionnaires were collected on a weekly basis to ensure participants had sufficient time to complete them and could do so in their own time and place of convenience. The initial predetermined period, communicated to participants when the questionnaires were distributed, was 4 weeks. However, this needed to be extended because of an initial slow response rate. The total collection time was thus 7 weeks. The questionnaire was written in English, the administrative language of the department. Information regarding the study and potential participation was provided in the form of a participant information sheet. The information sheet thoroughly explained the voluntary nature of the study and that informed consent was given by willingly completing the questionnaire. The questionnaire was distributed to clinical staff at the research site during three routine meetings attended by oncologists and registrars, as well as the heads of the allied health departments clinically involved in patient care (e.g. nurses and radiographers). It was also given to oncologists and the heads of allied health departments, who were asked to distribute the questionnaire within their teams. The questionnaires, informational posters about the study (with QR codes to an online version of the questionnaire) and collection boxes (for completed hardcopy questionnaires) were placed in areas easily accessible to potential participants, such as break rooms and admin stations.

A standardised scoring guideline was used to calculate a total score for each participant; responses to specific questions were assigned certain values, which were then added to calculate a total score. Each question had a numerical value of 0 to 5. The total score was calculated by adding the scores of each category (CS, CF and BO). The categories of the CS section consisted of low, modest, good, high or extremely high risk. The categories of the CF section consisted of extremely low, low, moderate, high or extremely high risk, and the categories of the BO section consisted of extremely low, moderate, high or extremely high risk.

Each participant's final score corresponded to predetermined ranges, which indicated their potential risk for CF and BO and potential levels of CS. The aim of the questionnaire, as mentioned previously, was to explore the clinical staff members' experience of CF, BO and CS. Due to limitations in space, however, this article primarily focuses on the participants' experience of CF.

Setting

The research was conducted at the Oncology Department at Universitas Academic Hospital Annex, on the grounds of the National District Hospital in Bloemfontein, South Africa. The department serves as the major oncology department for the Free State province, as well as for oncology patients from the Northern Cape and Lesotho. The department was accessible to researchers and granted permission for the study. The department makes use of systemic and radiation therapy for the treatment of adolescent and adult cancers, while radiation therapy is used for the treatment of children. No researchers were employed at the hospital at the time of this study.

Sample

The study population encompassed all staff from the oncology department who were willing to participate under fully informed consent. The population thus included the oncologists, palliative staff, nurses, radiographers, social workers and others employed in the 2024 calendar year. For anonymity, no confounders (age and experience) were gathered. The following inclusion criteria were thus applied:

- A participant should have been a clinical staff member working in the Oncology Department at Universitas Academic Hospital Annex in 2024.
- Participation had to be on a voluntary basis.

The only exclusion criterion employed was that the participants were clinical staff (staff who directly deal with health-related information). Non-clinical staff were thus excluded from the sample, as they have no health-related responsibilities. As per the request of the head of the Department of Oncology, administrative staff were also included in this study as their regular engagement with detailed patient information and coordination of care provides substantial exposure to patients' clinical conditions.

Total population sampling was used. A staff list, provided by the Head of Oncology, showed that a total of 160 clinical staff members worked in the department at the time of the study; however, the distribution across different clinical occupations was not made available.

Initially, 105 responses were received out of a possible 160, equalling a response rate of 65.6%. Responses from participants who did not meet the inclusion criteria were excluded, leaving a total of 94 responses that underwent statistical analyses. In all, 10.48% of responses were not used because they did not meet the criteria.

The study proceeded with no interruptions, and no deviations were made from the initial proposal. An adequate amount of statistically valid data was captured, enabling the researchers to answer the research question. Participants were not made aware of their scores according to the scoring guideline.

Pilot study

In piloting the study, the questionnaires were distributed electronically to registrars and consultants at the University of the Free State, a department with clinical staff accessible to the research team with only registrars and consultants available at the time. Total population sampling, or sampling of all individuals within the defined criteria, was utilised, and staff members were subject to the same selection criteria as the main study population, being clinical staff. In total, there were nine participants available during the pilot study, which provided insight into the suitability of the chosen data collection method as well as the feasibility and acceptability of the questionnaire itself.

The pilot study also clarified the time participants would need to complete the questionnaire and enabled the researchers to

correct problematic variables where necessary. Participants in the pilot study, just as in the main study, were not made aware of their results according to the scoring guideline. The pilot study was well received, and the questionnaire proved feasible and acceptable. It was also easily completed by the pilot participants. Some minor edits were made to the questionnaire (e.g. spelling mistakes). The average response time was 7 min 48 s. The collected responses from the pilot study were not included in the final study population.

Analysis

Numerical variables were summarised by medians, minimums, maximums, or means and standard deviations. Categorical variables were summarised by frequencies and percentages.

The differences between groups were evaluated using appropriate statistical tests (Chi-Square and Fisher's Exact Test) for unpaired data. A data analyst from the Department of Biostatistics (University of the Free State) assisted with the statistical analyses of the data using Statistical Analysis Software (SAS 9.4). The additional statistical tests were, however, abandoned, as explained in the results section.

Ethical considerations

Before the study and pilot study commenced, ethical clearance was obtained from the University of the Free State Health Sciences Research Ethics Committee (HSREC) (UFS-HSD2024/0399/2708). Approval for the study was also obtained from the Head of Oncology (Universitas Hospital) and the Acting Director of Family Medicine (University of the Free State). No member of the research team was employed or known to the hospital during the time of this study.

Results

Figure 1 shows that a range of clinical oncology staff participated in the research. The greatest number of participants (n = 57) were nursing professionals, followed by radiographers (n = 14). The lowest participation rate was from social workers (n = 1). Thirteen miscellaneous responses were also collected. Two of these responses came from dieticians, one from a medical practitioner and another from a primary ward carer, but the remaining nine responses were from non-clinical staff and were thus excluded from the data analysis.

Based on the scoring guide that accompanied the questionnaire, participants were statistically sub-categorised based on their score per category. The results showed that of the total responses included in the statistical analysis, 97.2% were at an extremely high risk of CF, while 81.3% of the participants had a low potential for CS. In terms of BO, 57.3% were at an extremely low risk. Please note BO does not contain a 'low' category, as per the scoring guidelines. Figure 2, Figure 3 and Figure 4 illustrate these results.

The results of two sub-groups, nurses and radiographers, yielded the highest skewed results for all three categories (CF, BO and CS) and are thus illustrated separately in Figure 2 and Figure 4.

Participants from these two occupations were at the highest risk of CF and BO and had the lowest potential for CS. Specifically, 77.1% of the nursing professionals who participated in the study scored in the 'low potential' range for CS, while 97.6% were at an extremely high risk for CF. Regarding their potential for BO, 55.8% were at an extremely low risk, while 19.2% were at a high risk. The scores of the radiographers showed a similar trend, with 92.3% being at a low potential for CS, and 100% being at an extremely high risk for CF. Similarly to the nurses, the majority of the radiographers (64.3%) seemed to be at an extremely low risk for BO, with only 7.1% being at a high risk.

Due to the varying completion rates for the individual categories (CF, BO and CS), the number of participants with valid scores in multiple categories was limited. While some participants provided valid responses for 1 or 2 categories, missing responses in the final category resulted in incomplete data across all categories. Consequently, the subset of participants with complete responses across all three categories was insufficient to support meaningful comparative analyses. As a result, meaningful associations and statistically valid p-values showed inconsistencies and lacked value. Consequently, these analyses were excluded from the study.

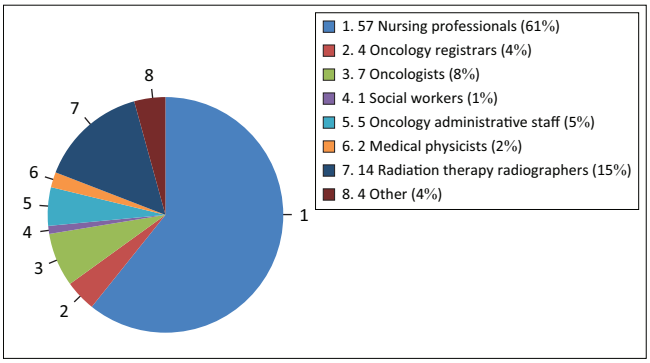

FIGURE 1: Staff occupations of participants.

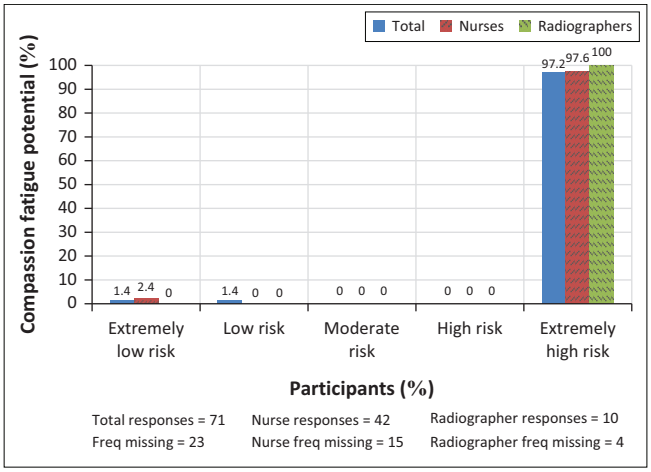

FIGURE 2: Compassion fatigue.

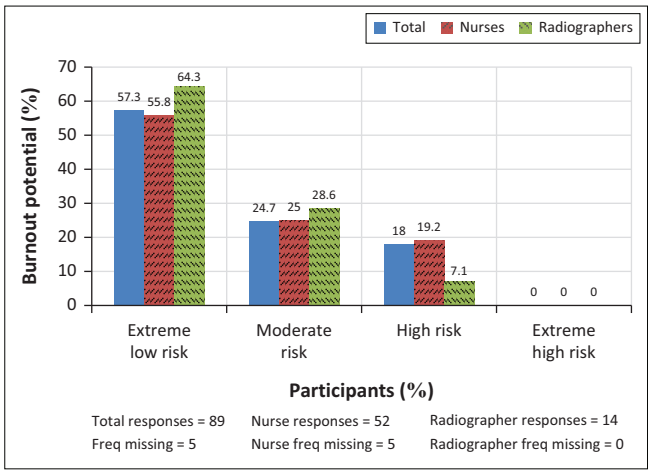

FIGURE 3: Burnout.

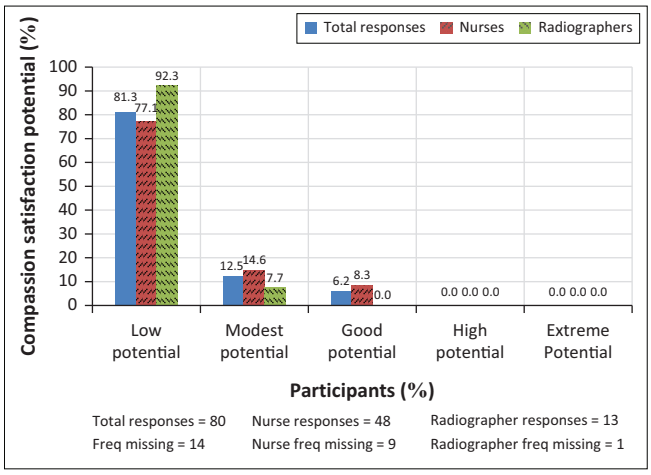

FIGURE 4: Compassion satisfaction.

Discussion

The findings from this study indicate that the overall prevalence of CF among clinical oncology staff at Universitas Academic Hospital Annex is notably high. Most of the participants (97.2%) across specialties within oncology reported high levels of CF. This aligns with results reported in previous studies, which showed that, in general, clinical oncology staff experience moderate to high levels of CF.[5,7,9,10,11,12] Interestingly, however, the findings from this study showed that the majority of the clinical participants were at a low risk of BO (n = 57.3%). This finding differs from the majority of studies reviewed, which reported moderate to high levels of both CF and BO among oncology professionals. The experience of CF and BO are seemingly exacerbated by various factors such as: (1) staff shortages, (2) interpersonal conflict, (3) poor management support, (4) a lack of job expectation clarity, (5) poor education and (6) long working hours[4,5,7,8,9,11,12,18] which is further supported by subjective work time pressure as a strong predictor for both CF and BO. The significance of this time pressure increases when it is mediated by work-family conflict. A lack of personal self-care has also been reported as a significant predictor of CF and BO.[5] The contrasting results regarding BO reported in the current study were unexpected and may indicate that the abovementioned factors are not as prevalent among clinical staff members at Universitas Academic Hospital Annex. The underlying reason for this finding is unclear and can only be speculated upon. Further investigation is recommended.

The potential for CS among most of the participating clinical staff members (81.3%) was extremely low. This result is mostly in keeping with most of the literature reviewed, which found that clinical professionals in the field of oncology frequently experience moderate to low levels of CS. A number of factors seem to either contribute to or hinder the experience of CS, including the amount of rest and leisure time a professional has,[4] the amount and type of self-care a professional engages in,[5] and the levels of social, peer and workplace support received.[11,19]

In the current study, nurses and radiographers were identified as the clinical professionals at the greatest risk of suffering from CF and of having low potential for CS. Notably, radiographers had the highest scores for CF and the lowest potential for CS. This differs somewhat from previous literature, most of which identified nurses[3,4,7] as the professionals most at risk of CF, followed by oncologists.[9,10] Important to note that nurses and radiographers were the two largest groups of clinical professionals who participated in the study, making up 61% and 15% of the total sample, respectively. However, despite this potential skewing of the data, it is valuable to note that extended periods spent with suffering and dying patients and family members, as well as exposure to trauma, pain and grief, are some of the factors that may contribute to the high prevalence of CF among these clinical professionals.[5,7,11,12]

Overall, the results of the current study are mostly in keeping with previous research. Where differences between findings have been identified (e.g. the lack of a relationship between burnout and CF), these may be explained by research-specific factors such as the diversity of geographic settings and healthcare systems, differing disciplinary fields, and varying research aims and objectives. Another contributing factor to the varying results within the literature is the dearth of literature focusing on entire oncology teams.

Limitations

During the study, the researchers encountered some limitations. Some questionnaires were completed by participants who did not specify their occupation and were thus excluded from the study. A few questionnaires were also incomplete, with some questions unanswered, impacting the ability to do a comprehensive analysis. The subset of participants with fully complete responses across all three categories was insufficient to support meaningful comparative analyses. A further possible limitation is that the results are dependent on the truthfulness of participants. However, because of the nature of the study, the researchers do not predict that participants had reason to be untruthful in their responses. Lastly, potential confounders (e.g. age, sex and years in role) were not collected to preserve participant anonymity.

Ethical considerations included the right to privacy of personal information, voluntary participation, the right to withdraw without repercussion and implied consent. All data were stored on Research Electronic Data Capture (REDCap), a secure web application for managing databases,[17] which is behind the University of the Free State's firewall. All participant information collected was anonymous and complied with the national *Protection of Personal Information Act* (POPIA). Participants incurred no costs. Refusal to participate in the study had no detrimental effect on any employees, and appropriate precautions were taken to limit harm to participants. The participants' psycho-social well-being was treated with great care, and the contact details of the University of the Free State psychologists were provided in case the participants felt the need for professional help. The right to access and control the collected data was limited exclusively to the eight members of the research team and the research supervisor. Finally, the participants were provided with the contact details of relevant authorities via the participant information sheet, should they want to gain access to their responses or the final research findings in the future.

Recommendations

Further investigations into the causes of the highly skewed data of nursing professionals and radiographers should be completed. This could pave the way to improving psychosocial well-being for staff working in these specialisms. Other possible areas for further investigation include the replication of this study in other healthcare departments, which will enable comparisons between the experiences of CF, BO and CS by clinical staff from other medical specialties (e.g. paediatrics, trauma and geriatrics). Such replication studies could lead to further investigation into the causes of low psychosocial well-being within healthcare departments and what can be done to improve it. The final recommendation is for hospital management to encourage staff to practice peer support when necessary and provide them with the contact information of counsellors should they require psychosocial help.[19]

Conclusion

This study provided the means to determine the risk of CF among oncology staff in the Oncology Department at Universitas Academic Hospital Annex, South Africa. Utilising the Compassion Satisfaction/Fatigue Self-Test for Helpers, the researchers also assessed the clinical staff's potential for BO and CS.

The results indicate that staff across all oncology specialisms at University Academic Hospital Annex were at a high risk of CF, while the potential for CS was notably low. Contrary to the results from previous studies, the majority of participants reported low levels of BO. High levels of CF among participants were expected; however, the results were substantially higher than anticipated. Even though the participants' risk for BO was reported, it was to a lesser extent than their risk for CF and low potential for CS. This result is in contrast to previous research.

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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

Dirk C. Laas: Conceptualisation, Data curation, Investigation, Methodology, Project administration, Visualisation, Writing – original draft and Writing – review & editing. Alicia Buchinger: Conceptualisation, Data curation, Investigation, Methodology, Visualisation, Writing – original draft and Writing – review & editing. Anika Ferreira: Conceptualisation, Data curation, Investigation, Methodology, Visualisation, Writing – original draft and Writing – review & editing. Gertha Wink: Conceptualisation, Data curation, Investigation, Methodology, Resources, Visualisation, Writing – original draft and Writing – review & editing. Gideon D.J. Potgieter: Conceptualisation, Data curation, Investigation, Methodology, Writing – original draft and Writing – review & editing. Laureka Wallace: Conceptualisation, Data curation, Methodology, Visualisation, Writing – original draft and Writing – review & editing. Megan van Biljon: Conceptualisation, Data curation, Investigation, Methodology, Visualisation, Writing – original draft and Writing – review & editing. Sumé Delport: Conceptualisation, Data curation, Investigation, Methodology, Visualisation, Writing – original draft and Writing – review & editing. Cornel van Rooyen: Formal analysis, Project administration, Resources, Software and Supervision. Chantelle C. van der Bijl: Data curation, Investigation, Methodology, Project administration, Resources, Supervision, Visualisation, Writing – original draft and 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 data that support the findings of this study are available from the corresponding author, Chantelle C. van der Bijl, upon reasonable request.

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