



A qualitative description of how Ghanaian radiographers identify suspected child physical abuse



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ABSTRACT

Introduction: Child physical abuse is intentionally inflicted injury of a child and presents a challenging diagnosis to clinicians mostly as a result of doubts about whether the findings were perpetrated by carers of these children. Suspected child physical abuse cannot be reported without its initial identification, substantiation and reporting. Imaging findings is one way of providing evidence of abuse in court.

Methods: A qualitative design was used to gather data. Twenty (20) radiographers were recruited using purposive criterion sampling to share their experiences of mode of identification of suspected child physical abuse. Semi-structured interviews were conducted to gain deeper insight into their experiences.

Results: Radiographers' suspicion or identification of child physical abuse was based on four (4) constructs: pre-radiographic observation; child's physical signs; caregiver secrecy and imaging findings. These observations provoked further investigations through questioning of the child (if of verbal age), parent or both. Their initial suspicion through assessment of cases was sometimes strengthened by the imaging findings.

Conclusion: Radiographers suspected child physical abuse using several approaches some of which were found to be unacceptable although it led to other important information, such as additional imaging performed by the radiographers without doctor consultation. However, being able to identify child physical abuse is important in child protection activities.

Implication for practice: Identification and reporting of suspected abuse to the appropriate child protection authorities are imperative for child protection. The possibility that some experienced radiographers may fail to deal with serious instances of child abuse exist. A radiographer's inability to identify such cases, could that the victim would miss the required protection from the professional.

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Introduction

The occurrence of injuries amongst infants is not unusual; many of which are accidental, others may have been inflicted through abuse of which health professional should take note.¹ Child physical abuse presents a challenging diagnosis to clinicians mainly because there could be uncertainty about whether the findings were inflicted by guardians of these children or not.¹ Identification and notification of suspected abuse is imperative for child protection. A

United Nations Children's Fund (UNICEF) country report on Ghana indicated that, approximately 90% of children reported some form of violence and placed Ghana in the 8th position in the world with serious child rights violations.² One study³ which examined 153 school children on corporal punishment in Ghana, found that 61.4% (n = 153) of the children were physically punished by their parents or a caretaker; seven out of ten pupils found the school to be the most likely environment where they would receive physical punishment. It has been established that children continue to experience additional abuse when not identified or reported.⁴

The doctor should be able to distinguish non-accidental injuries from those which are accidental, perform a thorough and cautious investigation with suitable supporting assessments, non-

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judgmentally evaluate the account provided for the injury, and establish the likelihood that the description actually relates with the nature, brutality, and age of the injury.⁵

However, various child protection studies have established some key obstacles faced by health care professionals in reporting child abuse.^{6,7} These impediments included the health care practitioner's unease about the possibility of wrongful identification of the abuse, concerns about being segregated and stigmatised, a gap in the practitioner's awareness of contemporary facts about identifying and reporting abuse^{6,7} and, cultural influences.⁸ It is also understood that, the diagnosis of abuse becomes difficult where children are nonverbal or are unable to provide a history, and sometimes when faced with elusive physical abuse signs which may be muddled with other common paediatric diagnoses.¹ Moreover, defining whether marks and bruising were from physical chastisement establishes abuse can be very problematic.¹ This is particularly true for cultures that accept corporal punishment as child discipline.^{8,9} Irrespective of reasons deterring professionals from reporting, it is worth noting that there is 50% probability that an abused child could suffer subsequent mistreatments.¹⁰ Despite the reported hindrances that sometimes prevent health professionals from notifying the appropriate authorities of suspected abuse, reporting is indispensable in guaranteeing the wellbeing of children.¹¹ However, this can only be possible when inflicted physical abuse is identified by the health care professional and there is willingness to report.

Radiographers play an important role in advancing child protection in the medico-legal context.^{12–15} Hidden evidence of abuse can be revealed through the quality images radiographers produce, and moreover the images are used to estimate the age of these fractures.¹⁶ Additionally, these images may be required in court of inquiry.^{12,13,15,17} The contribution of radiographic assessment of children suspected to have suffered physical abuse has been reported.^{5,12,13,15,18–20} This notwithstanding, the clinical implication of a radiographer's ability to recognise or suspect abuse may prompt reporting, could support child protection authorities within the hospital. The current study is an extension of two previous publications of the authors^{8,20} which identified factors that led to spectator attitude towards child protection by the radiographers. The current study also sought to explore Ghanaian radiographers' method of identification of suspected physical abuse amongst children who presented for radiographic examination.

Method

The current study builds on previous work^{8,20} and details of the methods are discussed. A qualitative design was used to gather data. Twenty (20) radiographers were recruited to the current study from the register of the Ghana Society of Radiographers and the society's social media platform using purposive criterion sampling. Semi-structured interviews were conducted before the COVID-19 pandemic.

Participants' interviews were audio recorded and the reports provided by participants were transcribed and analysed by the first author. The thematic analysis and themes developed were reviewed by the co-authors. The data was managed with NVivo Version 10 (developed by QSR International, Melbourne Australia). Themes developed formed the discussion of this paper.

Ethical consideration

Ethical approval was sought and granted by the Institutional Ethical Review Boards/Committees such as Ghana Society of Radiographers; ID NO: GSR/EEC/V1/003, Ghana Health Service, ID NO: GHS-ERC:14/01/14 and Sheffield Hallam University. Written

informed consent was sought and obtained from all the participants.

Results

The study involved 16 males and 4 females with a mean age of 30 years and work experience between 5 and 29 years. Radiography in Ghana is male dominated and although the number of radiographers in Ghana stands at 250 at the time of study, the 20 participants had indicated an encounter with suspected cases of child physical abuse to qualify for participation. All were married with children except one female radiographer who was single and had no child. Participants were from major teaching, regional and municipal hospitals, and some polyclinics. Four (4) thematic constructs were developed out of thematic analysis of the transcribed interviews: pre-radiographic observation; child's physical expressions; caregiver secrecy and imaging findings were considered. These are analysed under separate headings below.

Pre-radiographic observation

Observations by some participants before the X-ray examination of the child were important in determining whether a case before them appeared to be physical abuse. Through history taking some were able to establish, or suspect that abuse might have occurred.

“... if it is not indicated on the request form as an abuse, I only talk to the patient or the mother of the child to find out what happened. It is then that I get to know whether it is an abused child or not”. (Rad 03)

“... upon interrogation and talking with the child, the child ended up giving us a clue that it was the mother who caused such a degree of injury to him. (Rad 20)

They normally interviewed the child further which occasionally led to the cause of the abuse:

“... and when I asked the child why the mother did that (beat him), he said it was because the father beat the mother”. (Rad- 06)

Some participants were dissatisfied with the brief clinical information on the X-ray referral form. Simple clinical histories such as “trauma”, created confusion because they were unable to decipher from such short information. The doctors neither stated what form of trauma the child had experienced nor the right protocols they wanted for the examination if the “trauma” written on the referral form implies an abuse.

“It is like they do not tell us on the request form the child has been physically abused or suspect abuse but they tell you it is a trauma case. (Rad 07).

“So maybe, through your own investigation before you come out to know that the child has been abused”. (Rad 07)

“The doctor too has written trauma and trauma can be anything ... but after you have done the case you probe further and you see that no this is not ordinary accident but there is something wrong”. (Rad 04)

Another problem reported was clinical histories which mismatched the injuries observed on the child.

“The history indicated a fall but if you look at it, they you could see they even poured water on the child, and there were bruises as well

so if you look at the injury and history, there is no relation” (Rad-06)

The history taking by some participants was occasionally affected by language barriers. This cultural problem hindered a participant's attempt to query further.

“Ammm the only problem is when they don't speak your language or English it becomes difficult to probe or ask questions. In such situations am unable to tackle issues the way it should be” (Rad -14)

Child's physical signs

A few of the participants suspected abuse when the child presents with unusual emotional expressions and doubtful physical injuries.

“... when they came it was like the child has been crying and experiencing some discomfort” (Rad-02)

“... the physical appearance of the person sometimes gives you a certain suspicion” (Rad-05)

“... the child was as if you know has been run over by a train, he looked like somebody who was not being well taken care of and this one was so obvious because the way the parents even interacted with the child in my presence you could tell that this was a child who was undergoing abuse”. (Rad–20)

“... I had a baby and I was to do a pelvic x-ray for the child who had burns at the genital area and ... it was too bad I wanted to know what happened ” (Rad-10).

Apart from using child's emotional and physical signs as a clue to suspect physical abuse, radiographers may also take cues from parental behaviour.

“From the look of the child and how he was crying, I felt that it was not just an ordinary injury because in the first place the mother lied to me that the child fell but looking at how there were swellings and lacerations on the head, I decided to ask more questions” (Rad-12).

Clues such as the child's anxiety and unwillingness to talk and lack of parental warmth created suspicion that the child was probably abused. In particular, Rad-07 and Rad-14 reported

“Most often when they come, it is like because they have been abused, the child is scared even to talk and then the parents are so agitated that they put some fear in the children so they cannot even open up ... most often the parent will be shouting at the child at times they will even go to the extent of even beating them in front of you” (Rad-07).

“Children suffering from child abuse ... are afraid of their parents and also sometimes because the child is not allowed to talk when they bring them here by the behaviour of the parents” (Rad-14).

Caregiver secrecy

Parents sometimes were not ready to divulge any information and this, combined with poor parental warmth, was a clue for some participants to suspect physical abuse. For example,

“... whoever brought the child is not ready to talk to you” (Rad-15).

“... the way the parents even interacted with the child in my presence you could tell that this was a child who was undergoing abuse” (Rad 20).

On some occasions, the radiographer was fortunate to have a verbally cooperating child who was ready to talk when the accompanying parent gave false information.

“... this child was somehow cooperating so we got to find out that no, this was an abuse issue he (child's father) was trying to cover up the whole situation but from the child, we managed to gather some information in that situation”. (Rad-06)

“... I asked those who brought the child to leave the room and when I further probed the child, I realised that he was even more afraid to tell me what caused the fracture to the femur ... So the boy could not give me the information I needed but I realised that it was a typical abuse case ” (Rad-15).

Imaging findings

Imaging results helped some radiographers to confirm or disprove their suspicion of probable physical abuse. Some of these radiographers did not initially probe for information until the imaging was completed and findings were suspicious.

“Most of them you finish the procedure and the radiographs will tell you this person has a fracture ... you probe further and you see that no this is not ordinary accident but there is something wrong ... you asked the mother what exactly happened then maybe that is where they will come out with the truth”. (Rad-04)

“Yes, it is when we see the radiograph that is when we further ask the relatives who accompanied the victims what happened. We do not just give the films out but we try and investigate in a way to know what happened to the child. That is when they tell you the actual story when you see the outcome of the report” (Rad-16)

Multiple healing fractures identified by a radiographer after the imaging made the radiographer look for other clues to confirm the suspicion of probable abuse.

“There was one particular case ... the patient came in with a request with the history of trauma ... it was the right upper limb but as I began to do it, I realized that there were several other fractures that were healing also. I became suspicious and so I began to get more inquisitive and tried to find out what really was the problem” (Rad-20).

The radiographers suspected abuse when the patient was, for the second time, referred for follow up X-rays.

“... I did what the clinician actually requested for - a chest x-ray which we carried out but there seems not to be any major problem; only for them (child and parents) to come after some weeks and the same procedure is carried out and you could see some fracture healing, I mean callus formation around some of the ribs and you could suspect that something fishy is happening”. (Rad-02)

Although not acceptable in the scope of practice in Ghana, for a radiographer to use his or her discretion to perform additional

projections, one participant did that to confirm his suspicion of physical abuse.

“... but on the same humerus there was another fracture you know that was healing and then I just per chance did a radiograph of the radius and ulna including the wrist and found two other fractures”. (Rad–20).

This raises a question whether the radiographer's discretion was right or wrong.

Discussion

Managing child abuse cases generally depends on abuse identification, reporting and subsequent action. This study explored Ghanaian radiographers' method of identification of suspected physical abuse among children. Child physical abuse has been described as any destructive action directed against a child with the infliction of injuries such as bruises, slashes, burns, fractures, head and orofacial injuries, internal abdominal injuries or poisoning.²¹ It is appropriate for radiographers to recognise a child who has been abused as they play an important part in the chain of child protection in healthcare. The actions taken by radiographers have implications for the welfare of the child who have been abused. This formed part of the significant issues addressed in the current study. The requirement to identify physical abuse falls on all those involved in the care of children including experts in the area of diagnostic imaging.²² In the context of Ghana, the study found that cases of child physical abuse were either identified or suspected by Ghanaian radiographers through several evaluation processes. A few of the radiographers' suspicions of physical abuse depended upon the appearance of the child, especially the injuries observed before the imaging procedures were done and also from further information sought either from the child or parent. This was regarded as an important step because as primary care professionals they have, by the nature of their work, the opportunity to examine children when positioning them for any radiographic examination.¹⁵ Moreover, as a result of the growing occurrence of several types of abuse, it is required that those providing the service to children who report with any of the sub types of mistreatment, undertake thorough evaluation of the child for identification of any other form of abuse.²³ This however, does not imply or support the radiographer to undertake discretionary projections as part of this assessment. One would have thought the imaging findings could assist the referring clinicians to go ahead to order other tests.

The identification of child abuse is necessary to provide the necessary intervention for the victim. Evidence suggests that the timely recognition and diagnosis of abuse and neglect are vital because the condition is associated with morbidity and significant mortality rates.²⁴ This, against the high incidence of child physical abuse in Ghana,^{25,26} makes it appropriate for radiographers to be able to identify any form of abuse and rely on such observations. Aspects important in child protection include notification when abuse is identified which should prompt investigations to substantiate the allegation.²⁷ This would allow for action to be taken to prevent further abuse.⁴ Consequently, it is critical for professionals who handle children not to ignore steps such as the initial identification and reporting their suspicion.

As evidenced in the current study, the imaging findings enabled some radiographers to seek further information from the parents to help them understand what actually caused the injury particularly when the imaging findings were doubtful, consistent with previous studies.^{13,15,28} Through this process, radiographers in the current study were able to get useful information to establish non-accidental injuries. This information could be given to the

radiologists to provide good reports if the hospital has a radiologist or to the Social Welfare Department (SWD) which is the legal department in the hospital supposed to handle abuse cases. However, a previous study by the authors established that these radiographers were not aware they should report their suspicion to the Social Welfare.²⁰ The case identification steps used by participants in the current study were, in large part consistent with other studies.^{15,29,30}

The findings also identified that participants in the current study used observation of poor parental or caregiver relations with the child to suspect abuse, particularly when no cordiality was seen between the child and parent/caregiver.

Children require parental warmth and sense of belonging for their sound development and a child lacking this should draw one's attention that the child might be at risk of abuse. There have been unsupported reports of parents attempting to harm their children even in the imaging department where the radiographer was the other adult present as the parent was in the room, had to intervene and prevent further abuse.³¹ Similarity was established in the current study where radiographers observed parents beating and yelling at their children in their presence. However, one radiographer who had experienced such negative parental behaviour did not act because to him it was a family affair.^{8,9}

A clinical issue that bothered the radiographers in the current study centred on the nature of the referral history provided. There was a consensus among the majority of participants interviewed that the information usually provided by the doctors was often either inadequate or imprecise or did not correlate with the observed injuries.^{32–34} ‘Trauma’ as history to some participants is not specific enough as to whether the condition presented by the child was due to non-accidental or accidental injury. This concern was not surprising as radiography procedures apply specific imaging protocols to accomplish a clinical investigation based on the clinical history and test presented. This is not unique to the Ghanaian situation since doctors may also not be sure, or even be aware of a possible non-accidental injury if they are inexperienced or false history were presented by parents/caregivers. However, in the current study, participants' concerns were relevant because not all fractures (or trauma cases) seen in a child suggests abuse or otherwise unless supported with required clinical history.¹⁸ In contrast to these arguments, one would also expect that once trauma was indicated and particularly in children, it would be prudent for the radiographer to have in mind that abuse could also be a possible cause for which reason the X-ray referral has been made for differential diagnosis. Doctors may face numerous obstacles to identify child abuse which could affect the history they provide the imaging department such as criteria to arrive at abuse.⁴ Moreover, the diagnosis of child physical abuse has been a challenge because of disbelief by health professionals that caregivers could hurt children.¹ For this reason, clinicians generally, should continuously contemplate on other reasonable approach of medical diagnoses in advance before establishing with conviction that the child's injury is from abuse.³⁵

The current study can establish that radiographers studied were diligent to unravel the cause of child's injuries through further probing, which sometimes gave them fruitful information. This step by some Ghanaian radiographers is relevant to this debate because health professionals could have expressive and hidden preconceptions that may affect their ability to distinguish abuse from non-abuse cases.⁴ In particular, a study identified that some Ghanaian radiographers by their cultural affiliations, did not accept corporal punishment as a form of abuse.⁸ Ironically, when a parent through corporal punishment or child discipline, inflicted injuries to the child, these radiographers saw such cases as a family affair and normal.⁸ Although the child may go through the hands of

several professionals, any professional suspicious of abuse which might have been missed in the chain of events should alert authorities whether it would ensure or guarantee the child's well-being. Moreover, radiographers in the current study, against their scope of practice, discretionally performed additional imaging protocols. This they did to confirm their suspicion of physical abuse without consultation with the referring doctor to ascertain whether it was necessary. However, their reasons for non-communication with the doctors have been extensively explored in a previous work by the authors.²⁰ For example, the study found that some of the cases came from different hospitals and getting in touch was a problem and besides some doctors got angry when contacted on such issues. However, the need to communicate with the referral source for further information is necessary or imperative to clarify the original information.³⁶ This is because of the possibility of having information which is inconsistent and unreliable as was reported in the findings of the current study. Despite these difficulties radiographers seeking further clarification from the doctor in charge of the child could be an appropriate step.³⁷ Additionally, the findings of the current study found the behaviour of some caretakers/parents' nondisclosure of the truth which could have affected the referral histories. It is certain that if a parent or the one in charge of the child's care fail to be truthful, constructing the right diagnosis becomes particularly challenging.³⁸ It is important for radiographers in Ghana to identify their key roles in cases of suspected child abuse and act accordingly.

Conclusion

The clinical method for identification of suspected physical abuse in children by radiographers in Ghana was explored. Radiographers studied used several means such as parental behaviour, child physical signs, and radiographic findings to support their suspicion or identify a child at risk of physical abuse. An unacceptable professional behaviour was identified where some radiographers, in trying to establish abuse, were found to use their own discretion to perform additional projections without consultation with the referring clinician. Although identifying any form of abuse, is a significant step towards the attempt to safeguard children against any successive mistreatment, the approach to establish physical abuse should be done within acceptable protocols.

Conflict of interest statement

None.

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