



Child maltreatment between knowledge, attitude and beliefs among Saudi pediatricians, pediatric residency trainees and medical students



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H I G H L I G H T S

- Despite disagreement of culture impact on CAN definition, it was well known.
- Experienced physicians were the most knowledgeable about CAN especially neglect.
- Most participants lacked knowledge regarding reporting of CAN.
- All participants expressed need to further training to deal with cases of CAN.

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Background: Child maltreatment is not included in Saudi medical schools and pediatric residency curriculums, which might limit knowledge and spread misconceptions. Additionally, physicians might have different attitudes regarding reporting child abuse and neglect. In this study, we hypothesize that medical students and pediatric trainees have limited knowledge, oblivious attitude and misbeliefs regarding child maltreatment in comparison to experienced pediatricians. But, medical students and trainees might hold higher motives and willingness to learn about child maltreatment and their consequences.

Methods: A self reported questionnaire was distributed after a pilot study to include pediatricians, pediatric trainees and medical students in all main areas of pediatrics services: pediatrics wards, pediatrics outpatient clinics, critical care and pediatrics emergency.

Results: In disregard to their level of training, medical students and physicians believed that child maltreatment happens within the kingdom and is common. They were familiar with the child maltreatment definition, although only one third thought it is subject to culture sensitivity. However, experienced physicians were more knowledgeable especially about neglect. Moreover, female participants were more likely to report despite being more skeptical of readiness of Saudi law system to deal with cases of maltreatment. In general, knowledge about reporting was clearly deficit at all levels. Fortunately, all participants requested and were enthusiastic to receive further training.

Conclusion: Saudi medical students, pediatrics trainees and pediatricians have good basic knowledge, positive attitude and willingness to learn more to provide a safe environment for children in Saudi Arabia. However, knowledge in regards to reporting child maltreatment is a major observed defect. Still, further education and training are needed to combat CAN in Saudi Arabia.

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1. Introduction

Child maltreatment is the abuse and neglect that occurs to children under 18 years of age [1]. It includes all types of physical and/or emotional ill-treatment, sexual abuse, neglect, negligence

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and commercial or other exploitation, which results in actual or potential harm to the child's health, survival, development or dignity in the context of a relationship of responsibility, trust or power [1].

Child abuse and neglect (CAN), sometimes referred to as child maltreatment, are global problems with serious long-term consequences [2]. However, parenting and child's discipline have different styles in different parts of the world which could confuse the definition of child abuse and neglect at a global scale [3].

Child maltreatment is not included in many medical schools and pediatric residency curriculums, which might limit knowledge and spread misconceptions [4,5]. Additionally, physicians have different attitude regarding reporting child abuse and neglect [6,7].

In Saudi Arabia, the first case of child abuse was identified in 1990 [8]. It is hard to accept there was no form of child abuse or neglect prior to that date but there is no evidence to support such argument. More cases have been identified ever since, which led to establishing many scan teams in the young country [8]. According to National Family Safety Program registry, most of cases of CAN in Saudi Arabia are detected in hospitals [9]. Hereby, child healthcare professionals' knowledge, attitude and beliefs play major roles in recognizing victims of CAN. Thereafter, they also contribute in the decision of reporting.

In this study, we hypothesize that medical students and pediatric trainees have limited knowledge, oblivious attitude and misbeliefs regarding child maltreatment in comparison to experienced pediatricians. On the other hand, medical students and trainees might hold higher motives and willingness to learn about child maltreatment and their consequences. Perhaps, the main aim of this study is to identify areas of poor knowledge, inappropriate attitude and misbeliefs to address future initiatives and policies.

2. Methodology

2.1. Study population

A self reported questionnaire was distributed to include pediatricians, pediatricians' trainees and medical students in different areas of pediatric services: pediatric inpatient and outpatient clinics, intensive care and pediatric emergency of King Saud University Medical City. The questionnaire was in English to avoid any translation bias. Initially, it was evaluated from clearness and easiness measures by a pilot study of ten physicians, interns and senior medical students. Later, the adopted questionnaire was emailed to 150 physicians and medical students with a response rate of 84.6%. Also, demographic data for each participant were obtained.

2.2. Research ethics

An informed consent was sought from each of the respondent physicians, interns and medical students to answer the questionnaire completely and the study has an IRB approval. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

2.3. Statistical analysis

Raw data were transferred into an Excel spreadsheet and finally analyzed utilizing the commercial software SPSS version 20. Furthermore, categorical data was described utilizing percentages, means and medians when necessary. Furthermore, multiple qualitative and quantitative analyses were employed. Student t-test and chi-squared test were applied to assess the impact of gender, level of physicians' education and experience on knowledge and attitude. To identify physicians' characteristics influencing intention to

report suspected cases of child abuse and neglect, a multivariate logistic regression model and Hosmer-lemeshow statistics reporting odds ratio were adopted.

3. Results

3.1. Physicians and medical students characteristics

Out of the study population, 61 (48%) were females, and the rest were males. Most of the females were in the junior side (52/61) (medical students, interns and residency trainees). Participants' ages were highly condensed within age 35 years or less (85%). Saudi physicians comprised the majority (83.5%) followed by expatriate physicians (16.5%). They were distributed to various clinical areas including inpatient, outpatient, critical care or rotating physicians: 31.5%, 6.3%, 14.2%, 48%, respectively. Nearly two fifths were medical students. Interns composed 17.3% of the respondents. Residency trainees constituted 19.7% while senior physicians (consultant assistants and consultants) included more than one fifth (22%) (Table 1).

3.2. Knowledge and attitude toward child maltreatment

When asked on a response scale made of yes/No questions that asked their knowledge, attitude, and beliefs on child Abuse and neglect (CAN), the majority (98.4%) believed CAN occurs in Saudi Arabia. Also, most participants (76.45%) considered CAN as a pressing social and health priority. Although the majority (76.4%) admitted they are familiar with the CAN definition, only one third (32.3%) thought the definition is subject to cultural sensitivity. However, most respondents agreed that neither Saudi medical schools nor pediatric residency programs prepared them well to deal with cases of CAN, 77.9% and 83.5% respectively. When asked about risk factors, parents' alcoholism and drug abuse was the most recognized risk factor. (Fig. 1) Also, the most identified consequences of CAN were social difficulties, poor self-esteem and psychiatric illnesses. (Fig. 2) Surprisingly, more than 80% declined the presence of a National Saudi child protective system. Furthermore, almost 62% expressed lack of knowledge if institutional child protective team existed. Additionally, the vast majority (79.5%) assumed that the Saudi law system is not well equipped to deal with cases of CAN. As most participants (89%) believed CAN can be

Table 1
Shows medical students and physicians Characteristics.

	Frequency	Percentage
Sex		
Male	66	52
Female	61	48
Age		
20–26 Yrs.	84	66.1
27–35 Yrs.	24	18.9
36–45 Yrs.	13	10.2
45 Yrs. Or more	6	4.7
Nationality		
Saudi	106	83.5
Expatriate	21	16.5
Clinical Service		
Inpatient areas	40	31.5
Outpatient areas	8	6.3
Critical Care	18	14.2
Rotating to services	61	48
Seniority		
Medical Student	52	40.9
Interns	22	17.3
Residency Trainees	25	19.7
Senior Physicians	28	22

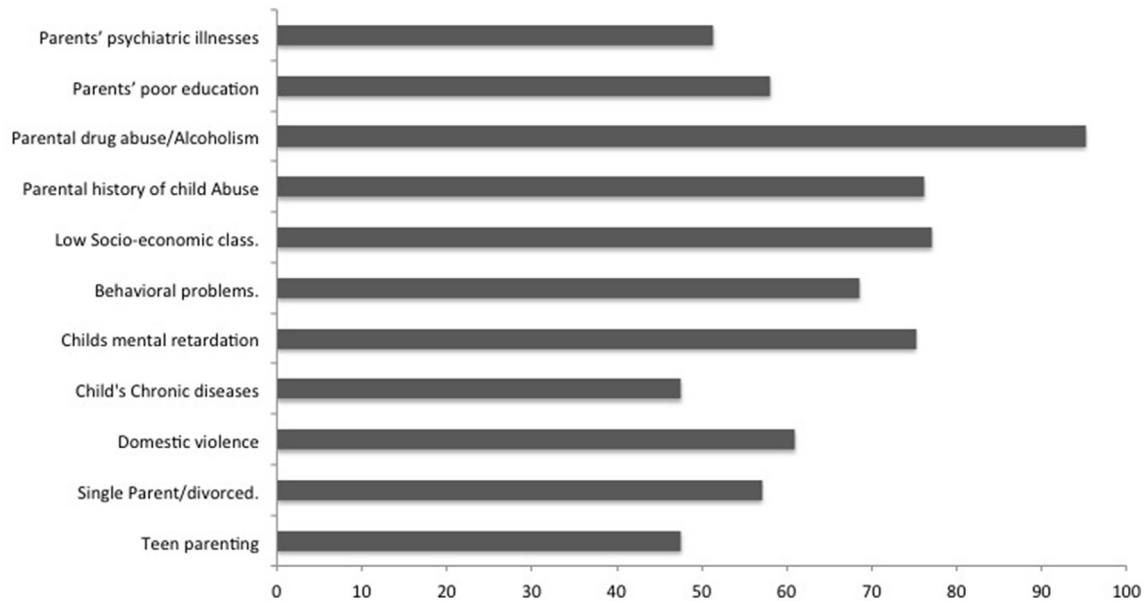


Fig. 1. Among identified risk factors of child abuse, parental drug and alcohol abuse was the most identified risk factor. Conversely, teen-parenting and child's chronic diseases were the lowest.

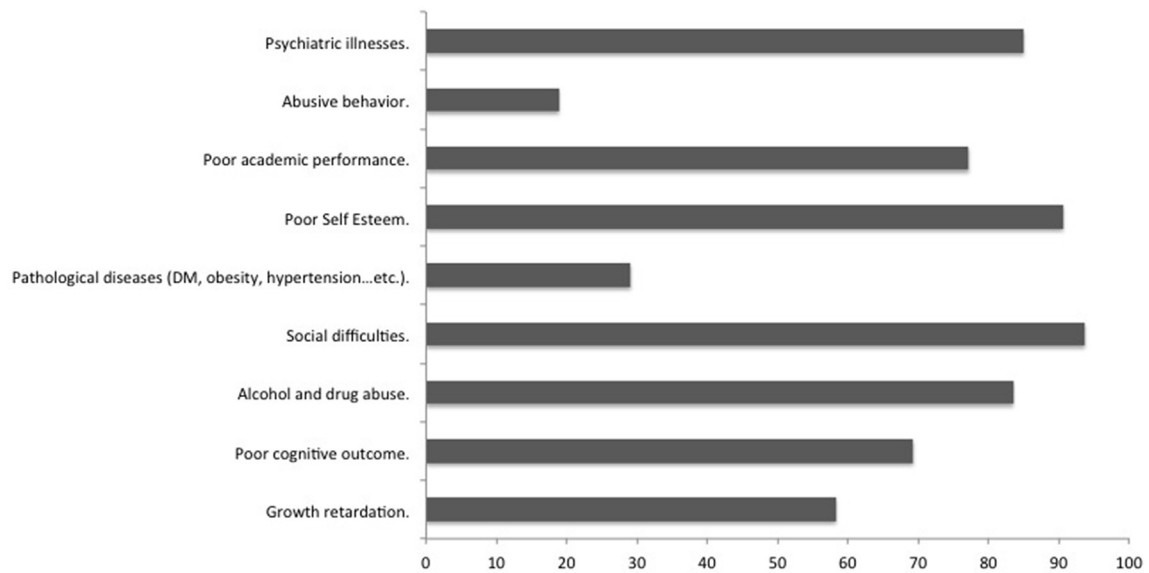


Fig. 2. The highest recognized consequences of child maltreatment were social difficulties, poor self-esteem and psychiatric illnesses. On the contrary, abusive behavior and pathological diseases were the lowest identified CAN consequences.

prevented, the majority of them (93.7%) expressed need in specialized training to address CAN. Luckily, they are willing to receive further trainings addressing CAN in Saudi Arabia (92.1%) (Table 2).

3.3. Reporting

Almost all study participants (97.5%) agreed CAN reporting should be mandatory per code of medical practice in Saudi Arabia. However, only one third considered reporting to institutional child protective team while the rest considered police or other agencies. Additionally, almost half of respondents (48%) expected their colleagues might hesitate in reporting CAN when encountered during

their routine practice. Among the study population, eleven participants confessed that they encountered suspected cases of CAN and decided not to report. Their main reasons were lack of enough evidence, unfortunate earlier experiences with previous cases of CAN or disagreement among their medical team. Still, the highest type of CAN most likely to be reported was sexual abuse (96.9%) followed by physical abuse (96.1%) while emotional abuse was the lowest (57.5%). (Fig. 3) Using a chi-squared test of independency, it showed that there was no association between physicians' seniority and their attitudes toward reporting emotional abuse or Shaken Infant Syndrome, physical abuse and sexual abuse. However, they differed significantly with their attitudes in reporting commercial and human trafficking and neglect. All participating consultants

Table 2
Demonstrates different aspect of knowledge, attitude and beliefs toward Child maltreatment among study participants.

Question	NO n(%)	YES n(%)
I am familiar with the child abuse and neglect definition	30 (23.6%)	97 (76.4%)
The definition of CAN is subject to culture and traditions	86 (67.7%)	41 (32.3%)
Child abuse and neglect happens in Saudi Arabia	2 (1.6%)	125 (98.4%)
CAN is a high priority among other social and health problems in Saudi Arabia	30 (23.6%)	97 (76.4%)
Current Medical Schools provide good background about CAN	106 (83.5%)	21 (16.5%)
Current Pediatric Residency Programs provided you a good background to deal with CAN situations	99 (77.9%)	28 (22%)
A Saudi national program to protect against child abuse and neglect exists	83 (65.4%)	44 (34.6%)
Our hospital has a CPS process and structure in place	79 (62.2%)	48 (37.8%)
Current Saudi Law Enforcement System is equipped to deal with cases of CAN	101 (79.5%)	26 (20.5%)
I feel reporting child abuse and neglect should be made "Mandatory" per professional code of practice	3 (2.4%)	124 (97.6%)
My colleagues would hesitate in reporting suspected CAN subjects in general	66 (52%)	61 (48%)
CAN is preventable	14 (11%)	113 (89%)
I need further specialized training to deal with child abuse and neglect	8 (6.3%)	119 (93.7%)
I am willing to be trained to deal with victims of CAN	10 (7.9%)	117 (92.1%)

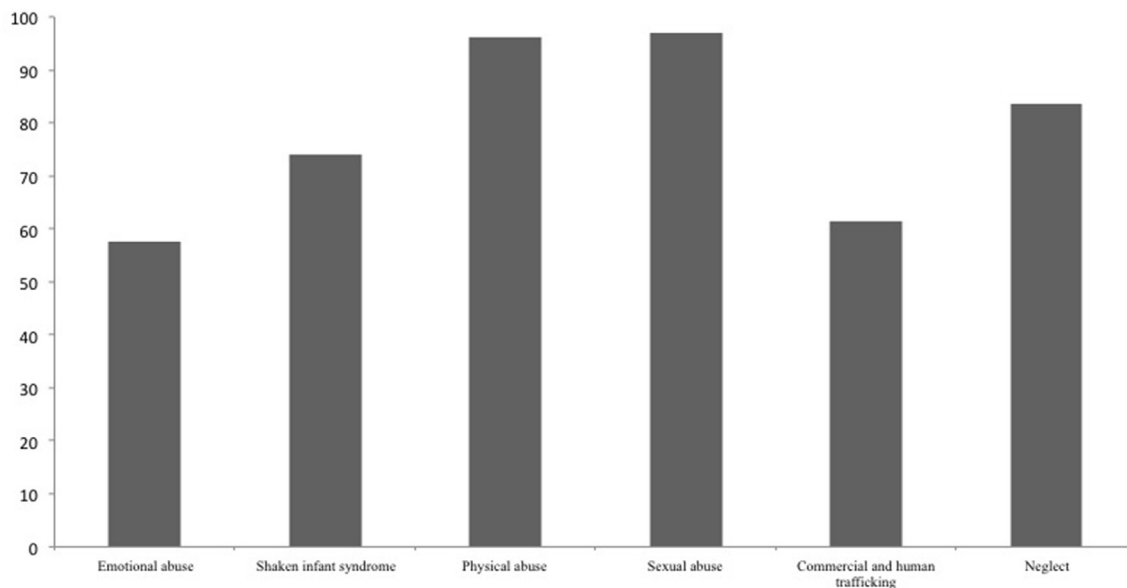


Fig. 3. Medical students and physicians were more likely to report sexual and physical abuses. In contrast, emotional abuse was the least likely to be reported.

(most experienced physicians) agreed to report neglect (100%) whereas medical students, interns and residency trainees settled in reporting neglect less relatively (78.8%, 86.4%, 72% respectively) which was statistically significant ($P = 0.004$). In the same manner, a significant difference between physician levels emerged on reporting human trafficking ($P = 0.056$).

3.4. Neglect model

Since Neglect was the commonest form of CAN in Saudi Arabia [8], we decided to explore any relationship between physicians' characteristics, attitudes and beliefs and their intent to report neglect when encountered by using Multivariate Logistic Regression (Table 3). The model suggested that at least one or more of the included variables had a significant relationship with physicians' intent to report Neglect (seniority level, physicians' acknowledgment of their institutional child protective team, perceived their colleagues might hesitate on reporting CAN, female gender, believed CAN is common and a pressing priority, viewed their background college education on CAN unsatisfactory, and total number of identified CAN risk consequences). Hosmer-lemeshow statistics suggested that the model explained the data well denoting the included variables were a good fit with the modeled

outcome (intents to report neglect). To illustrate, the model suggested female physicians are at increased odds (1.9 times) to report neglect. Also, those physicians who perceived CAN definition as being subjected to cultural sensitivity were 2.73 times more likely to report neglect when encountered on daily practice. Likewise, the effect of the physicians' beliefs on CAN is a pressing priority among social and health issues. It had a positive effect on physicians' intents to report Neglect, 2.37 times higher than their peers. Physicians' total identified number of CAN consequences converged significantly on their intent to report neglect. In fact for each additional selected consequence of CAN, the odd's of reporting neglect increased by 2.1 times. Similarly, those who assumed their peers might hesitate on reporting CAN tended to perceive neglect as reportable 3.7 times higher. Additionally, participants who acknowledged their institutional child protective team were 10.5 times more likely to report neglect. The highest probability to report neglect was among those who believed their medical school prepared them well to deal with cases of CAN. They were 11 times more likely to report neglect. (Fig. 4).

3.5. Determining factors of knowledge and attitudes toward CAN

As experienced physicians were more likely to report neglect,

Table 3
Multivariate Logistic Regression explaining the relationship between Physician's characteristics, believes and training with intentions to report child Neglect.

	Odds Ratio	95% C.I.for Odds Ratio		Wald	Sig.
		Lower	Upper		
Sex (female)	2.382	0.714	7.950	1.992	0.158
Definition of CAN is subject to culture: Yes	2.734	0.688	10.858	2.043	0.153
CAN is a priority within KSA: Yes	3.019	0.734	12.414	2.347	0.126
Medical schools prepared me well? Yes	11.049	1.027	118.930	3.927	0.048
Total Number of Risk Factors mentioned	0.940	0.766	1.154	0.347	0.556
Total Number of CAN consequences reported	2.045	1.275	3.279	8.819	0.003
My colleagues Hesitate to report: Yes	3.720	1.012	13.676	3.911	0.048
Recognize local CPS: Yes	10.457	1.612	67.838	6.054	0.014
Senior Physician: Yes	1.858	0.357	9.670	0.542	0.462
Constant	0.006			9.644	0.002

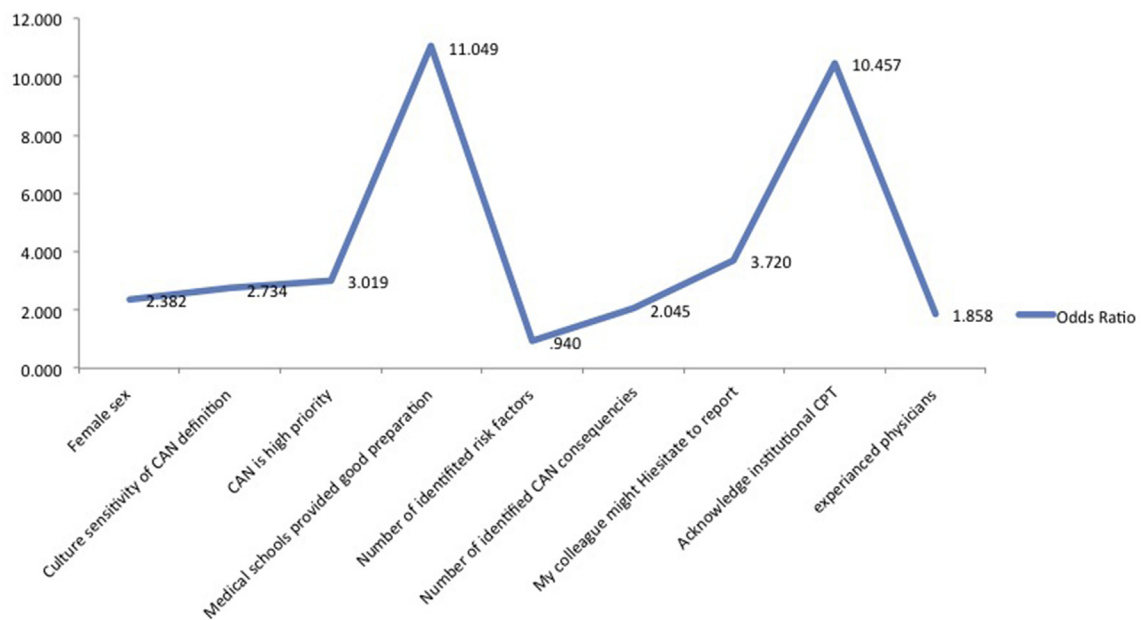


Fig. 4. Multivariate Logistic Regression explained relationship between respondents' characteristics, attitudes and training with intentions to report child Neglect.

they also were able to identify more risk factors and consequences. (Fig. 5) Furthermore, they recognized chronic illnesses as a major risk factor when compared to less experienced participants ($P = 0.001$). Another obvious determining factor was physicians' gender. In addition to tendency of female physicians to report neglect more often, they showed more willingness to receive further training ($OR = 9.5, P = 0.029$). Also, females presumed that CAN occurs more commonly ($OR = 2.3, P = 0.025$). In contrast, females significantly alleged Saudi Law System as less equipped to deal with cases of CAN ($OR = 0.19, p = 0.001$). Moreover, females believed more that CAN is preventable ($OR = 2.6, P = 0.122$).

4. Discussion

Since the first case of child maltreatment in Saudi Arabia was identified, many more cases have been recognized [10]. A lot of change was established and many SCAN teams were implemented [11]. However, education and training in medical school and residency programs to utilize available tools to combat CAN is still lacking [12].

Despite general knowledge of the CAN definition among study participants, the majority rejected its subjectivity to cultural sensitivity. This can impact recognition of CAN and lead to either over or under detection. It is well documented that culture and

traditions designate a more suitable definition of CAN for each population [13]. However, Arab societies have been more acceptable of certain corporal punishments that is considered a form of CAN in other parts of the world [14]. Still, defining CAN to meet appropriate Saudi Arabian culture and traditions is a step forward in fighting it [15].

Experienced pediatricians showed higher knowledge as expected and parallel to earlier findings reported by Lane WG et al. [16]. They were able to distinguish more risk factors and consequences. Additionally, they were more informed about neglect. They also saw the impact of chronic illnesses as a major risk factor similar to earlier documentations by other investigators like Sullivan P.M and Jaudes PK et al. [17,18]. Despite being more likely to report neglect, they had failed to show higher knowledge in the reporting process.

Erratically, medical students were able to identify more risk factors and consequences of CAN than residency trainees. Unexplained higher knowledge of medical students was found in another setting within Middle East [19]. As reported by Glasser S et al., medical students might have higher awareness of changes in child protection policies. Nevertheless, all participants have positive attitude and willingness to learn more about CAN. This positive attitude sensed equally at all ranking levels and pediatric specialties. This provides another opportunity to incorporate

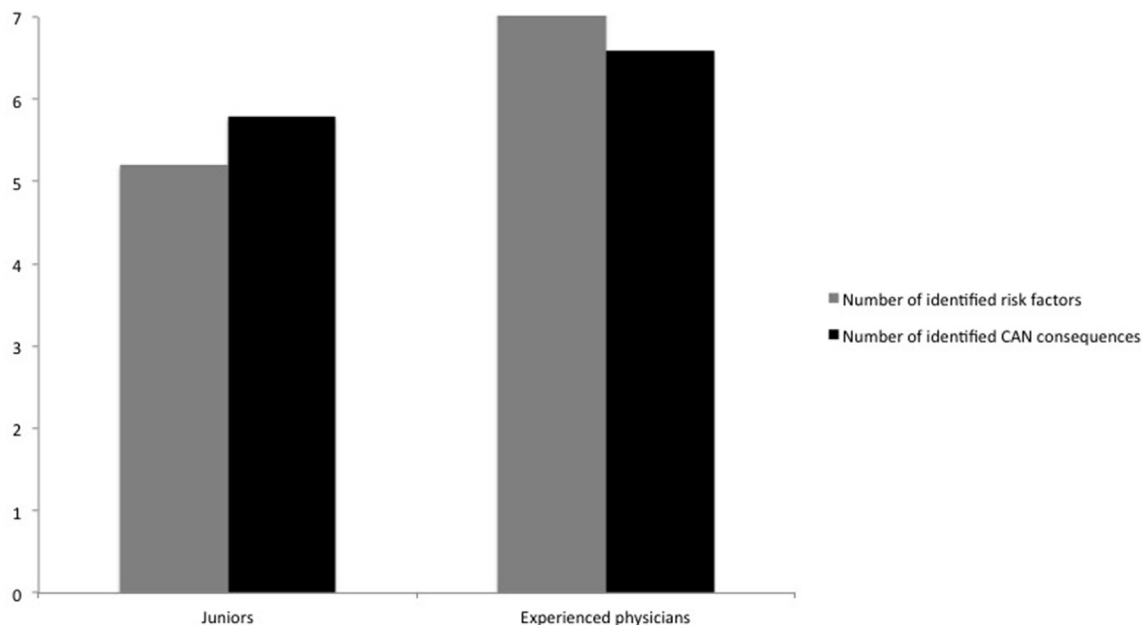


Fig. 5. Experienced physicians were able to recognize more risk factors and consequences of CAN in comparison to medical students, interns and residency trainees.

education materials and training courses in Saudi Medical Schools' and postgraduate trainings' curricula as demanded previously [12,20]. This study provides clear evidence that medical school curriculum addressing child maltreatment can play a major role in fighting CAN and increase reporting of its most common type.

This study showed another evidence of defective reporting of CAN in Saudi Arabia which has been documented earlier by Al-Dabaan R et al. and Habib HS [21,22]. Shockingly, there was almost a complete consensus that CAN reporting should be made mandatory. In fact, it has been mandatory since 2009 [8]. Furthermore, only one third of respondents consider involving their institutional child protective team. This could be mainly due to lack of realization of their presence or their roles. This is parallel to results from other countries like Sweden [5,23]. Nevertheless, females were more eager to report cases of CAN which supports previous literature published by Ashoor L et al. [24].

Most respondents were more likely to report sexual abuse among all types of CAN. Saudi Arabia is a very conservative Islamic country. Sexual abuse is the least tolerated form of abuse in conservative countries [25–27]. In contrast, emotional abuse was the least likely to be reported by study participants. In Arab populations, emotional abuse is not well defined and prone to be tolerated which supports Elayyan K's findings [28].

5. Conclusion

In general, good basic knowledge, positive attitude and willingness to obtain further training were observed among study participants. Experienced physicians were more knowledgeable and more likely to report neglect. Furthermore, female respondents showed higher enthusiasm to report and acquire further training. However, reporting is a major observed defect. Finally, further education and training are needed to combat CAN in Saudi Arabia.

Ethical approval

IRB approval was granted by King Saud University Research Ethical committee.

Sources of funding

None.

Author contribution

Study design: Yossef Alnasser, Amani Albjadi, Waad Abdullah, Alanoud Alomair, Yara Alsalloum.

Data Collection Amani Albjadi, Dana Aldabeeb, Sara Alsaddiqi, Yara Alsalloum.

Data Analysis Yossef Alnasser, Amani Albjadi, Waad Abdullah, Dana Aldabeeb.

Writing: Yossef Alnasser, Yara Alsalloum, Sara Alsaddiqi.

Conflicts of interest

Authors disclose no conflict of interest by any means!

Guarantor

Yossef Alnasser.

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