INTRODUCTION

Cervical cancer is one of the most common cancers among women worldwide, with an estimated incidence of 528,000 new cases annually (Villalobos et al., 2016). Human papillomavirus (HPV) is a considered primary cause, with an estimation prevalence of HPV worldwide of 99.7%; in particular, types 16–18 are present in more than 80% of invasive cervical cancers (Everett et al., 2011). The greatest protection against cervical cancer currently available is the combination of HPV vaccination before first sexual intercourse and a screening programme with repeated smear tests (Scarinci et al., 2010). The World Health Organisation (WHO, 2002) argued that success of cervical cancer screening programmes depends on having sufficient number of personnel to perform screening tests and facilities where staff can undertake subsequent diagnosis, treatment and follow-up.

In Iraq, cervical cancer ranks as the 12th most frequent cancer among women. However, there is no national cervical cancer screening programme (Bruni L et al., 2016). The incidence of cervical cancer in Western Asia and Middle East Arab Muslim (WAMEM) countries...
where Iraq is located is difficult to estimate because of lack of national cancer registries in this region (Bruni L et al., 2016; Sancho-Garnier et al., 2013). It is universally acknowledged that there are considerable barriers to establishing and maintaining cervical screening programmes, particularly in developing countries, and there are additional barriers to setting up cervical screening in Iraq. Cultural factors are relevant, including lack of awareness about the disease, stigma and fear of the diagnosis (Ali et al., 2017). There is a need for healthcare providers such as general practitioners (GPs) and gynaecologists to promote cervical cancer services by educating women about cervical cancer risks, prevention and early detection to promote their uptake of screening. In most WAMEM countries, most gynaecological cancers are diagnosed at later stages (Hweissa et al., 2016; Salman, 2012). Lack of reproductive health awareness particularly among older women combined with the cultural stigma of seeking medical advice for gynaecological symptoms typically resulted in late presentation of all gynaecological cancers (Obeidat et al., 2012; Ortashi & Al Kalbani, 2013).

Iraq is categorised as a higher to middle-income country, yet cancer health systems are fragmented and mostly centred in the capital cities, with under placement of essential equipment and human resources (Al Hilfi et al., 2013; Alwan et al., 2017). Most healthcare services are accessed through private clinics. The Iraqi population has lived through considerable war, conflict and demographic changes and the cycle of violence continues. The Ministry of Health has not kept pace in developing appropriate policy. Government remains heavily centralised (Al Hilfi et al., 2013; Alwan et al., 2017). Primary healthcare facilities, where preventative healthcare such as cervical screening should be located, are limited. Cancer diagnostic, treatment and palliative care services are restricted (Al Hilfi et al., 2013; Attia et al., 2018). The national healthcare delivery system in Iraq and most other Arab countries focuses on treating symptoms rather than prevention of disease (Donnelly et al., 2013; Hweissa et al., 2016).

Health services in the city of Kirkuk, Iraq, are delivered through three hospitals: two main hospitals located in the city centre and one outside. Cervical cancer screening activities are carried out through a small public unit established by the Ministry of Health, for the purpose of early detection of cervical cancer. Two doctors work in this Unit: a consultant gynaecologist who was trained on cervical cancer screening in the UK, and a GP (family medicine doctor untrained on smear test or cervical screening). Three non-specialist nurses support the delivery of services. The doctors reported that commonly smear testing is performed for unhealthy women. Women attending are usually referred by other gynaecologists if they suspected any abnormality in the cervix. Cervical cytology takes place mostly as a part of a consultation for another illness. In the absence of a national population-based cervical cancer screening programme, most cervical screening is opportunistic. Little is known about medical doctors’ practical experience of adapting to such circumstances in order to identify health need and expedite treatment for women at risk of cervical cancer. This qualitative study aimed to explore the processes through which these doctors undertook screening and made decisions about appropriate referrals in the context of limited resources and infrastructure in Iraq at this time.

### METHODS

A qualitative approach was adopted building on a prior integrative literature review (Ali et al., 2017), which showed the gap in understanding the lived experience of health professionals faced with advanced cervical cancer presentations in Iraq. This study was a

| TABLE 1 | Study guide questions |
|----------|-----------------------|
|          | Job title             |
|          | Qualification         |
|          | Duration of services  |

#### Interview questions

- Can you tell me about your role here in the hospital? Do you see patients with cervical cancer?
- In your opinion, could some women with cervical cancer be detected earlier using the Pap smear?
- What are the cervical cancer preventative services you offer to women?
- Can you tell me if you were trained to undertake Pap smears for cervical cancer?
- Can you tell me about the use of Pap smears in your practice?
- Do you consider it is acceptable for a Pap smear to be included as a part of your day-to-day duties? If not, who should or could perform this role?
- In your experience, do women request screening? Is this something you offer?
- Prompt:
  - Have you ever performed a Pap smear?
  - Do you think more women should be encouraged to be screened? If yes, what would help to encourage more women to be screened? What could the barriers be to encouraging more women?
- What do you think about establishing a national cervical cancer screening programme in Iraq?
- What are the practical challenges facing the gynaecologists to establish population-based cervical screening programme?
- What do you think is necessary before a screening programme is launched in Kirkuk city for cervical screening?
- Do you have any other comments?
collaboration between the research-practitioners in Iraq (authors, 1, 3) and the academics in the UK (authors, 2, 4, 5). The first author is a nurse academic in Iraq and carried out the empirical work under supervision of the team. A purposive sample of 12 gynaecologists and the one GP (sometimes referred to as family medicine doctor) working in two main hospitals and the healthcare centres in Kirkuk, Iraq, were recruited (n = 13). These groups of doctors are collectively accountable for women’s gynaecological health in this area. However, in the context of Iraq, there is currently no national cervical screening programme, so the roles and responsibilities of gynaecologists in this regard are not standardised. Gynaecologists are responsible for undertaking smear tests in hospital settings, where women are unwell and/or have been referred to them for this purpose. Smear tests are not routinely available in the primary healthcare centres, GPs were not performing smear tests but it was expected they had some knowledge of the need to refer to gynaecologists.

The purpose of interviews with gynaecologists and GPs was to develop a better understanding of factors that might affect the implementation of successful cervical cancer screening services in this region. Semi-structured interviews were based on an open-ended questionnaire guide (Galletta, 2013). The Scientific committee at Kirkuk Health directorate ethically approved the study. The framework for interview questions (Table 1) was based on prior literature review (Ali et al., 2017), and outcomes of a preliminary (pilot) study in which 25 women who were referred to the unit for a smear test were interviewed to determine the factors that influenced women’s access to cervical cancer preventative services, in Kirkuk. Interviews with the gynaecologists in this unit helped to contextualise the situation regarding the cervical cancer prevention services they provided. The preliminary information provided also formed the background to this qualitative study.

Recruitment involved sending an invitation letter with a flier describing the study, to a purposive sample of 20 gynaecologists and GPs working in obstetrics and gynaecologic healthcare services in the main hospitals and primary healthcare centres. Twelve gynaecologists and three GPs accepted the invitation. Recruitment, interviews and data analysis continued apace until saturation was reached, with no new categories emerging (Guest et al., 2006; Strauss & Corbin, 1996). Twelve gynaecologists and one GP proceeded to interview (n = 13). Informed consent was obtained before conducting the interviews.

2.1 Procedure

Semi-structured interviews were conducted with 12 gynaecologists and one GP over three months from June to September 2015. Data were collected and digitally recorded in Arabic and transcribed and translated into English. The translations and verbatim transcriptions were peer reviewed by third author (Iraqi gynaecologist (AG)), and four participants requested to read their transcripts, which did not result in requested changes. Involvement of the participants in peer review enhanced transparency of the process and verified the core themes emerging. Further, the primary researcher’s background as a ‘known Iraqi female’, where she had local nursing history, her awareness of healthcare services delivery in Iraq played an important role in the study process by improving participant engagement. While this was an advantage in enabling us to interpret the data, we took steps to reduce social desirability bias by ensuring raw data was second coded by an experienced author (HS) to ensure the trustworthiness of the findings. Additionally, direct quotes were used to represent emergent themes. Most interviews were carried out in a regional public hospital, while some of the doctors requested interviews in their private clinics. The interviews began with demographic characteristics, such as ‘Job title’, ‘qualification’ and length of experiences. Afterwards, gynaecologists were asked about their experience related to cervical cancer and cervical screening (Table 1). In depth, interviews took between 30 and 60 mins. Participants were assigned pseudonyms, and identifying material was removed.

2.2 Analysis

A grounded theory (GT) (Corbin & Strauss, 2014) approach was used to build understanding about the unknown lived experience of gynaecologists working in Iraq. Classic grounded theory aims for conceptual understanding of social behaviour, rather than the constructivist focus on interpretive understanding of participants’ meanings (Charmaz, 2003). Our philosophical position was to adopt an ‘applied’ grounded theory approach that differed from traditional grounded theory method in the sense that we focused on participants lived reported experience from the field. The understanding is therefore partial and time-bound, yet offers vital insights into an unknown, unreported aspect of cancer screening practice and research in the context of Iraq.

The grounded theory approach produced a useful framework for key categories to emerge. Constructing an audit sequence included memos describing the first author coding decisions with emerging linkages between themes. Obtaining participant and peer feedback increased the trustworthiness of the process. A constant comparative process resulted in 70 codes created from line by line analysis (Table 2). This comparative process continued until we reached ‘theoretical saturation’ with no new concepts or categories emerging (Corbin & Strauss, 2014). Eight categories were inductively derived (Table 3) using the ‘Standards for reporting qualitative research: a synthesis of recommendations’ (SRQR) as a reporting guideline (O’Brien et al., 2014).

3 RESULTS

3.1 Demographic characteristics of the doctors

Twelve participants had specialist qualification as gynaecologists, and one participant was a GP (family medicine). All the participants were female (n = 13). I will refer to them as ‘doctors’ for the reporting
### Table 2: List of codes from doctors' transcripts.

| Concepts                                               | Free codes                                                                                           |
|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Doctor's experience of cervical cancer (CC)            | 1. Seen women with CC                                                                                 |
|                                                       | 2. Hasn't seen CC cases                                                                               |
|                                                       | 3. Rarely seen patient with CC                                                                         |
|                                                       | 4. Has seen cases of CC, but in the end stages                                                         |
|                                                       | 5. Never seen CC in the end stage                                                                      |
|                                                       | 6. Women attended at the last stage of CC                                                              |
|                                                       | 7. Seen patient with suspicious abnormality and referred them to the unit of early detection of CC     |
|                                                       | 8. Seen more than 10 CC cases in the last 10 years                                                     |
|                                                       | 9. Doctors have no up-to-date knowledge of CC                                                          |
|                                                       | 10. No experienced doctors in terms of CC                                                              |
| Current country crisis impact on the risk factors to cervical cancer | 11. Believes risk factors of CC have increased such as, more than one partner                          |
|                                                       | 12. Current crisis led to increased risk factors of STD & HPV                                          |
| Smear test practice among doctors as a part of day to day duties | 13. No smear test done in the healthcare centres                                                     |
|                                                       | 14. Does smear test in case of offensive discharge or postcoital bleeding                              |
|                                                       | 15. Hasn't done smear test yet                                                                        |
|                                                       | 16. Does smear test frequently in her private clinic                                                   |
|                                                       | 17. Done smear test to satisfy herself but not confident in its value                                  |
|                                                       | 18. Doesn't consider smear test is acceptable to be included as a part of her day to day duties because of the workload |
|                                                       | 19. Consider smear test acceptable to be included in her day to day duties                           |
| Doctor's perceptions of smear test (ST)                | 20. Monthly cervical visualisation much better that taking smear test                                   |
|                                                       | 21. Believes CC can be detected early using smear test                                                 |
|                                                       | 22. ST not useful because of short time for development of CC                                         |
| Training courses                                       | 23. Hasn't trained on smear test sample taking                                                         |
|                                                       | 24. Has trained in smear test in Baghdad                                                              |
|                                                       | 25. No training on cervical screening programme                                                        |
|                                                       | 26. Trained herself from YouTube                                                                      |
|                                                       | 27. Trained just for two days in Azadi hospital                                                        |
|                                                       | 28. Cytologists should be also trained                                                                 |
|                                                       | 29. Has trained on smear test in Dubai and India and Amman                                              |
|                                                       | 30. Cytologist and nurses should be also trained                                                       |
|                                                       | 31. Learned from her practice in the outpatient department                                             |
| Practical and health system barriers to CCS            | 32. A lot of speculums should be available                                                              |
|                                                       | 33. Knowledgeable leaders needed                                                                      |
|                                                       | 34. Due to the recent crisis a huge number of refugee influx into Kirkuk city                           |
|                                                       | 35. Financial burden of patient affects her attendance to ST                                           |
|                                                       | 36. Lack of women's knowledge                                                                         |
|                                                       | 37. Women do not attend to the hospital or healthcare centres unless they have pain                    |
|                                                       | 38. Difficulty to access the hospital                                                                 |
|                                                       | 39. Lack of experienced doctors in terms of CC                                                         |
|                                                       | 40. Lack of organisation of health system                                                              |
|                                                       | 41. Women feel embarrassed                                                                            |
| Management                                             | 42. Treatment plan for CC needed as well as SP                                                          |
|                                                       | 43. No treatment facilities for CC                                                                     |
|                                                       | 44. Vaccination for HPV would be more useful                                                           |
|                                                       | 45. Need centre for managing CC as well as screening                                                   |

(Continues)
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of results. The mean length of experience as a medical doctor was 18 years, while mean length of experience as a gynaecologist was 13 years, with a range of three to 27 years.

3.2 | Identification of cervical cancer services needs

Eight categories were identified from interviews with the gynaecologists and GP (see Table 3).

3.2.1 | Doctors experience of cervical cancer

All participants had post-qualifying years of experience; however, most of them reported lack of experience in terms of cervical cancer and cervical cancer screening, despite the majority specialist gynaecological training.

When the doctors were asked if they had ever seen women with cervical cancer, most doctors had seen women with late-stage cervical cancer. Only one doctor had never seen a case.

I have seen, but we refer them and mostly we see them during the end stages, they run to the end stages that is the problem because there is no screening, we are seeing them in the end stage and there is no hope! Hopeless case.

[D7]

Doctors explained a lack of experience in terms of end-stage cervical cancer.

Never seen cervical cancer during the end stages but have seen the early stage CIN1 and referred them for Smear test.

[D4]

One of the doctors expressed her concerns about doctors’ current knowledge of cervical cancer/screening:

let me tell you because we don’t see numerous cases we don’t have up to date knowledge about the disease, for instance when I face such cases I will return

TABLE 2 (Continued)

| Concepts | Free codes |
|----------|------------|
| Doctor’s willingness to establishing a National Screening Programme in Iraq (NSP) | 46. Willing to establish a centre for CS  
47. Need for local programme as cases present in the end stage when inoperable  
48. We have facilities to establish national screening programme  
49. We have a very high-quality medical machine but nobody is trained in how to use it  
50. Not supporting the idea of NSP  
51. Strongly supports the idea of establishing NSP  
52. Not confident NSP can be successful |
| Doctor’s recommendations for establishing a successful cervical screening programme in Iraq | 53. Training is necessary before SP is launched in Kirkuk  
54. Education first, then facilities should be available  
55. Need for qualified cytologist  
56. Training courses for healthcare providers and staff  
57. Raise women’s awareness through media and advertisements - doctors could speak about CC  
58. Make ST as popular as mammography through media, schools, colleges  
59. Practitioners should be trained to do ST  
60. Start from the antenatal care units in the GPs  
61. Family medicine is important  
62. Emphasise the relationship between patient and healthcare providers  
63. Laboratory facilities should be prepared before SP launched in Kirkuk city  
64. Emphasis on the co-operation among healthcare providers  
65. Updating training courses every 6 months  
66. Treatment plan for CC needed as well as SP  
67. Increase women’s awareness by distributing leaflets on ST among them  
68. Visiting home with vaccination team  
69. Histopathologists are needed  
70. National Screening Programme could be successful through media, primary healthcare centres, hospitals, ministry of higher education |
to the book to read more about it for example, I graduated as specialist gynaecologist in 2000, we had a unique outpatient in Baghdad for colposcopy so we were reading more and searching more up to date information but now here is so different.  

[D9]

Many doctors pointed to the lack of knowledgeable leaders and lack of doctors experienced in cervical cancer as challenges to cervical cancer screening programme.

One of the challenges is lack of doctors who have experience related to cervical cancer, for instance if I diagnosed a women with cervical cancer I would not be able do anything so I will refer her to Erbil city hospitals or if they are my relative or if they are wealthy, I will advise her to go to Turkey because I am not experienced and we don’t have facilities to treat CIN1 or CIN2, CIN3'.

[D10]

This finding reveals lack of baseline information on how to identify and treat cervical cancer. Doctors mainly expressed the need for educational programmes and guidelines on cervical cancer and cervical cancer screening.

3.2.2 | Staff training

Many doctors indicated that they had not attended any training courses on the smear test. Three of them had attended a local training course held by a doctor in a local hospital over two days, comprising one day of theory and one of practice.

Most doctors had learned how to undertake a smear test in outpatient clinics without any formal training.

No I haven’t, I have just learned from my practice in the outpatient or in the unit of colposcopy.

[D8]

One of the doctors trained herself using videos from YouTube:

No training, I have trained myself from YouTube, well done, this is a good study to recommend training for us (laughing).

[D5]

In general, all interviewed doctors reported lack of training and expressed a desire to attend more training courses on smear test and cervical cancer screening.

3.2.3 | Cervical cytology (smear test) practice among doctors

All doctors were asked about smear tests in their practices. All except two had performed it; one of these was a recent graduate.

R: Can you tell me about the use of smear test in your practice?

I haven’t done it yet, but I read that these patients should be referred to urinary medicine unit but we
don't have such unit here, when I was in Sulaimani City during my studies, they had a special unit for smear test.

[D6]

Another was a general practitioner who was working in the healthcare centre where the smear test is not available:

We don't have smear test here in the health care centres.

[D2]

Many of the doctors referred to smear test as a diagnostic test; most indicated that they used it in cases of cervical erosion, offensive discharge or postcoital bleeding.

Indeed I am doing smear test for every suspected case of cervical erosion, especially after 30 years old or even before that age if the cervix has ugly or abnormal shape.

[D4]

Another doctor stated that she was only offering if the patient had an 'unhealthy cervix'.

Not usually unless if she has unhealthy cervix or has a problem or if she complains of any cervical erosion.

[D1]

Another doctor reported pelvic inflammatory disease as an indicator for doing a test:

In my practice when I see women with PID (Pelvic inflammatory disease) or cervical erosion I always advise them to do the test, but there is no screening in Iraq.

[D3]

Almost all doctors agreed that cervical screening should be a part of routine duties.

3.2.4 | Barriers to cervical cancer screening uptake

Barriers related to cervical screening uptake among women were important.

Many doctors pointed to the lack of systematic healthcare services as a barrier to uptake.

Our health system is not systematic and this needs a well-planned health system. So, first of all, this should be start from the GPs and the general practitioners should be well trained to perform the smear test.

[D13]

One doctor stated that stigma around the word 'cancer' might be a barrier

Patients often are afraid and ask if there is something wrong or if I suspect cancer.

[D6]

Lack of information for women was mentioned:

Women never requests cervical screening, because they don't have any information, they don't know the simplest things because we don't have any health awareness or public health education.

[D5]

The cost of the smear test was identified as a barrier:

The screening should be offered by the health system and it should be cheap because if I suggest it in the private clinic most women won't accept to pay for the test unless she has got the disease and I would not consider this as screening.

[D9]

Women’s embarrassment was viewed as a frustrating cultural barrier to life saving intervention.

I had three cases, with regret they passed away, they had postcoital bleeding but were embarrassed to say and then they presented at the end stage of the disease and [we] couldn’t control the disease, even though we did all the therapy including radiotherapy.

[D4]

Doctors’ disclosed a variety of obstacles to cervical screening uptake mostly related to poorly organised healthcare services, lack of specialised knowledge and staff, and poor awareness of the disease among women. Embarrassment and fear of the test among women living in Kirkuk were shown to have a detrimental impact on screening uptake.

3.2.5 | Current country crisis impacts on the need for cervical screening

An issue raised by the doctors was that the risk for cervical cancer appeared to have increased with the recent crises in the country.
Currently the risk factors for cervical cancer have been increased, I mean such as, multiple partners and the risk of HPV. I think the disease was uncommon previously but currently it has become more common, we see there is an increase in both the incidence of cervical cancer and the rate of the risk factors.

Women travelling out of the country were perceived by one doctor to be an increasing risk.

Women should be screened, because the cervical cancer is common in the world and our people frequently travel outside the country, so they might get HPV viruses or multiple partners.

Whatever the reasons, including the likelihood of violence against women during war and conflict, the widespread view of the doctors was that risk factors such as sexual transmitted disease and HPV have increased with the recent country crisis.

3.2.6 Promoting cervical screening care infrastructure and care services

There was a considerable agreement among doctors that cervical screening should start from the primary healthcare centres. One of the doctors suggested the antenatal care point and emphasised the family medicine role.

... If we start from antenatal care in the healthcare centres because many women are visiting there, it is near their house and family doctor is very important in this field. Screening is a very good programme but if we make it active according to our situation, I mean the security problems and the ignorance of women health.

There was a high level of willingness among the doctors to establish an organised population-based cervical cancer screening with a desire to establish a specialist centre.

HPV vaccination was also suggested:

If the patient has HPV we have to do smear test for her and we should try to bring vaccination for HPV.

Overall, while considerable medical will and frustrations were evident, the gap in knowledge and experience among the gynaecologists was a compounding feature of the practical challenges. We developed the following practical theory to reflect the doctors’ lived experiences of inadequacy at this time.

Most gynaecologists reported lack of practical knowledge and experience regarding cervical cancer screening. The main challenge was the perceived shortage of adequately trained staff to deliver screening in the Iraqi context. Training education in cervical cancer cytology and smear test techniques was desirable, learning from the U.K experience, towards a developing infrastructure in Iraq.

4 DISCUSSION

This qualitative study is the first to focus on the perspectives of gynaecologists and a GP on cervical cancer screening in Iraq. Multiple factors influenced their capacity to undertake cervical screening to identify, treat or prevent cancer; the main issue is the absence of a national cervical cancer screening strategy that advocates and promotes specialist training and skills.

To date, international guidance on cervical cancer screening, including UK guidance, is not adopted in Iraq. The possible transfer of knowledge about screening techniques is novel. We partly explored this in a literature review (Ali et al., 2017), and concluded that a health policy change was urgently needed to promote cervical screening in WAMEM countries, to reduce morbidity and mortality from cervical cancer. There is a parallel need for research into culturally appropriate approaches to adoption of cervical screening in these countries.

Lack of experience among gynaecologists dominated this study. Gynaecologists frequently declared need for training courses on recent developments in cervical cancer prevention. Screening for cervical cancer has undergone a significant evolution since the introduction of the smear test in 1941 (BWH & NHS, 2017; Obeidat et al., 2012). One major advance in cervical cancer screening technology was liquid-based cytology (LBC) (BWH & NHS, 2017; Royal College of Obstetricians & Gynaecologists, 2016). With the migration of experienced doctors from Iraq, there have been concerns about the quality of health services and the ability of training facilities to replace those migrating, especially those with advanced specialty training (Attia et al., 2018; Burnham et al., 2012).

The doctors in this study referred to smear test as a diagnostic test and that it was performed only on unhealthy women, rather than for early detection of cervical cancer. Smear tests take place mostly during gynaecological visits as part of a consultation for illness. In Iraq, most women visit doctor’s private clinic when they or their family members are ill. Thus, the physician-initiated discussion on cervical cancer might be the only opportunity for those women to be educated about cervical screening. Typically, the major barrier to cervical cancer prevention is not the cost of the screening test, which is relatively inexpensive, but the cost and complexity of providing the infrastructure required for the screening programme (Ali et al., 2017). WHO (2017) reported that the healthcare system in Iraq is centralised, curative and hospital-oriented.
It lacks capacity to address the major health problems faced by the majority of the population in a sustainable and equitable pattern; primary healthcare is not capable of responding efficiently to the growing health needs of the population. Rapid demographic and epidemiological transitions are significant. The population of Iraq was estimated to be 32.2 million with annual growth of 2–3% in 2013 (Al Hilfi et al., 2013) compare to 36.94 million in 2016 (WHO, 2016). The country faces noticeable health challenges as the political instability and violence continues after decades of war and occupation (WHO, 2016). To address these issues, changes to health policies are required; however, this may be difficult in a health service where there are failures in policy processes (Shabila et al., 2012; WHO, 2016). Nevertheless, these findings do suggest potential barriers such as stigma and fear need further exploration in order to offer culturally acceptable cervical screening to women in this community. Evidence from this study showed that the majority of the gynaecologists wished to establish a national screening programme to inform local screening in the city of Kirkuk, which they believed should start from the primary healthcare centres. Gynaecologists suggested introducing screening during antenatal care and emphasised the family medicine role. Furthermore, this study suggested willingness to explore use of the HPV vaccination in a targeted population (i.e. girls aged 13–18 years), which would require critical appraisal for Iraq contexts.

4.1 Limitation of the study

It is a limitation of our study that interviews were restricted to 12 gynaecologists and one GP in Kirkuk region and we did not interview all the GPs working in primary healthcare centres. Therefore, the findings may not represent the experience and knowledge of all GPs in the city. Moreover, applied grounded theory focused on a qualitative exploration of medical doctors reported views on their practical experiences at that point in time. This process enabled us to get an in depth snapshot of the challenging contexts in which the doctors worked, which helped to develop the practical theory regarding purported gaps in professional knowledge and experience.

5 CONCLUSION

Women and girls carry an unequal burden of illness and death in Iraqi society while working and caring for their families. To improve the health of the nation, there is a need to prioritise women’s health. This is an enormous challenge in the context of civic unrest, war and health service disruption. Preventive cervical screening can help identify and protect Iraqi women from advanced cervical cancer. However, before launching any screening programme, public awareness should be raised and gynaecologists and GPs supported to make greater use of opportunistic cervical screening, involving regular training updates. Educational cervical screening initiatives should be encouraged and the primary healthcare systems better supported to undertake vital screening in collaboration with secondary care. Improving cervical cancer screening in Iraq requires global effort to reduce inequities in women’s health worldwide.

CONFLICT OF INTEREST

The authors declare no conflicts of interest.

AUTHOR CONTRIBUTIONS

S.A., M.C., H.S., C.D. and A.G involved in study design, data analysis and manuscript writing and revisions for important intellectual content. S.A. and A.G. involved in data collection.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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