Pediatricians’ and health visitors’ views towards detection and management of maternal depression in the context of a weak primary health care system: A qualitative study.

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Abstract

Background: The present study aimed to explore the views of pediatric primary health care providers for the recognition and management of maternal depression within the context of a weak primary health care system.

Methods: Twenty six pediatricians and health visitors were selected by using purposive sampling. Personal in-depth interviews of approximately 45 minutes duration were conducted. The data were analyzed by using the framework analysis approach which includes five main steps: familiarization, identifying a thematic framework, indexing, charting, mapping and interpretation.

Results: Fear of stigmatization came across as a key barrier for detection and management of maternal depression. Pediatric primary health care providers linked their hesitation to start a conversation about depression with stigma. They highlighted that mothers were not receptive to discussing depression and accepting a referral. It was also revealed that the fragmented primary health care system and the lack of collaboration between health and mental health services have resulted in an unfavorable situation towards maternal mental health.

Conclusions: Even though pediatricians and health visitors are aware about maternal depression and the importance of maternal mental health, however they fail to implement detection and management practices successfully. The inefficiently decentralized psychiatric services but also stigmatization and misconceptions about maternal depression have impeded the integration of maternal mental health into primary care and prevent pediatric primary health care providers from implementing detection and management practices.

Keywords: maternal depression, pediatricians, health visitors, primary health care
**Background**

Maternal depression is a common mood disorder that occurs in women especially during child-bearing years with prevalence rates ranging from 10-20% [1, 2]. Hormonal, psychological and social factors in the prenatal and postnatal period as well as in early child rearing years have been strongly linked to the onset of depression [3]. Maternal depression affects child’s physical, mental and social health [4-6], but also cognitive, and socio-emotional development [7, 8]. It has an indirect impact in the use of pediatric health care services and pediatric preventive practices. Underuse of child health preventive practices and overuse of pediatric emergency services have been found in various samples of depressed mothers [9-12]. Pediatric primary health care professionals (e.g. pediatricians and health visitors) usually have the most frequent contact with women of childbearing age and therefore they are in an advantaged position in detecting maternal depression during the well-child visits [13-15]. Even though most pediatric primary health care professionals acknowledge the importance of prevention of maternal depression, in fact they fail to contribute effectively to prevent it [16]. Although severe depression is usually detected in the context of primary health care, mild or moderate depression is seldom detected [17].

The early detection and management of maternal depression is recommended by the European policy framework that includes “support for parenting and the early years of life” as a major action area [18].

In an effort to better understand the context of pediatric primary health care regarding detection and management of maternal depression so as to improve the design of interventions and detect rates of depression, studies in countries with strong primary health care (PHC) systems (e.g. U.K., Australia, Netherlands) are exploring the
barriers at three main levels: organizational, patient and provider. Previous research indicates that the most common organizational barriers for maternal depression screening and management include: i) work overload and time restrictions, ii) absence of interdisciplinary team work, iii) lack of relevant health insurance coverage, iv) poor cooperation and collaboration between general and mental health sectors, iii) inadequate community mental health services [19-21]. Respectively, facilitating factors include the establishment of supportive policies for family oriented health care and the integration of general health and mental health services [16, 22]. The most frequently reported barriers at the pediatrician level include: i) reduced awareness and limited skills regarding basic aspects of maternal depression (clinical manifestation, impact, screening and management practices), ii) perceived roles and responsibilities, iii) poor perceived self-efficacy iv) fear of stigmatizing mothers, v) previous negative experiences in communicating with mental health professionals [23, 24]. The importance of addressing the above mentioned obstacles at provider level is of high priority, since these barriers are common both in public and private pediatric settings and they can be more easily modified compared to the organizational ones [1, 21, 25, 26].

Although there are several surveys from countries with a strong primary health care system investigating the barriers for early detection and management of maternal depression at the provider’s level, there are limited surveys from countries with weak primary health care systems. This is important, due to the negative impact of the weak primary health care system on the recognition and management of mental health problems and maternal depression. Such an impact poses an additional risk for both mother and child.
The recognition of the global burden associated with mental disorders by the World Health Organization laid down the framework for the integration of mental health into primary care [27] in order to address the mental health needs of the population, reduce the burden of mental diseases and promote the wellbeing and quality of life throughout the life course. Notwithstanding WHO’s call to action (2001), in many low and middle income countries (LMICs) the appropriate changes towards primary health care system and mental health care reform have not yet been established [28]. Evidence shows [29-31] that LMICs countries are far from achieving the goal regarding the integration of maternal mental health (and mental health in general) into routine primary care, mainly due to the following organizational obstacles: inadequate mental health expenditure, workforce deficits (e.g. lack of mental health specialists) and undertrained primary health care workers, insufficient decentralization of psychiatric services, inadequate or/and low quality community mental health services, limited or lack of collaboration between primary care and community enterprises and lack of public mental health leadership. Apart from the aforementioned organizational and systemic barriers, social exclusion, misconceptions and unfavorable attitudes that accompany maternal depression make its integration to primary care even more challenging [31].

The World Health Organization (2007) advocates that in the context of countries with weak primary health care systems (e.g. LMICs) the role of the health provider must be strengthened and upgraded, in order to overcome the systemic barriers, accomplish the integration of mental health into primary care and meet the mental health needs of the population. Primary health care providers should be trained and supervised appropriately to detect and refer people with mental health problems. In the present study we used a targeted block of questions to explore the existing barriers at
provider’s level (pediatrician and health visitor) for the recognition and management of maternal depression within the context of the weak primary health care system in Greece.

**Methods**

The present study was conducted within the context of the “Thales Framework” which is funded by the European Union and Greek national funds and finances the project entitled “Building Health Care Workers' Capacity in Health Promotion: development, implementation and evaluation of an innovative distance-learning intervention”. In its initial phase, the project aimed to assess the attitudes and skills of the health care professionals in Greece, plus obstacles and enablers, in order to guide the development, implementation and evaluation of an intervention e-learning program. One of the modules of the aforementioned project is “Maternal depression: Improving maternal mental health outcomes in the pediatric setting”. The present study aimed to explore the current practices as well as the perceptions of pediatricians and health visitors regarding the obstacles and facilitating factors for the detection and management of maternal depression.

Purposeful sampling was used because we were interested in an in-depth analysis of the problem and not the generalizability of the results [32]. In order to be eligible for the study, providers had to have at least five (5) years of professional experience and work at a primary pediatric setting as a pediatrician or health visitor. Seventy (70) pediatric primary health care providers (42 pediatricians and 28 health visitors) residing in Athens met the eligibility criteria. The financial crisis in Greece has been escalated during the last two years and as a response a lot of budget cuts in health and social care have been implemented. These changes may have differential influences on health professionals’ decisions regarding the provision of detection and
management practices for maternal depression but also the availability and acceptability of health and mental health services. For this reason, we deemed that it was necessary to include not just providers who have been involved in the past in detection and management practices, but those who were and are still providing such services, in order to ensure deeper and richer information which may lead to a fuller, deeper and more comprehensive understanding of the issue. Each potential participant received an email with an invitation and instructions to call a specific research team member to register for participation. Providers were selected to participate if they have been involved in detection and management practices (identification and referral) of maternal depression in the last 12 months. Twenty two (22) pediatricians and eight (8) health visitors were excluded since they were not involved in detection and management practices in the previous 12 months, though they reported that they referred mothers for depression in the past. Finally, 40 pediatric primary health care providers (20 pediatricians and 20 health visitors) were selected to participate. Twenty six (13 pediatricians and 13 health visitors) pediatric primary health care professionals agreed to participate and signed the written informed consent. The total sample included pediatric primary health care providers with different experience levels and from different regions of Athens Municipality. Health visitors and pediatricians from highly disadvantaged areas were also included in the study. Pediatricians recruited worked in a pediatric primary health care setting while health visitors in Centers for Maternal and Child Protection. The Centre for Maternal and Child Protection is a public primary health care setting of National Organization for Healthcare Provision, providing preventive services.
Following the Institutional review board approval from the Medical School, University of Athens the study was carried out in 2012-2013 in pediatric primary health care settings. The objectives of the study were:

- To investigate the awareness of pediatric primary health care professionals of maternal depression (impact, signs and symptoms etc)
- To explore the current practices of pediatricians and health visitors for the identification and management (referral, counseling) of maternal depression.
- To investigate and describe the pediatricians and health visitors perceived barriers for detection and management of maternal depression.
- To explore and describe the pediatricians and health visitors facilitating factors for recognition and management of maternal depression.

An initial interview guide was developed, pilot tested and reviewed before the final administration. It contained a set of open ended questions corresponding to the study objectives (Table 1). Personal in-depth interviews of approximately 45 minutes duration were conducted by research team members in participant’s preferred time and location. All interviews were audio recorded and transcribed verbatim in Greek. At the beginning of each interview, participants answered questions about demographic characteristics (age, gender, specialty, setting and years of practice) (table 2) and also an “ice-breaker” question, which was not analyzed.

Table 1. Interview Questions

<table>
<thead>
<tr>
<th>Mother’s Mental Health in General</th>
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</thead>
<tbody>
<tr>
<td>1 What do you think mental health is for child? What about mothers’?</td>
</tr>
<tr>
<td>2 How would you describe a mother that has good mental health?</td>
</tr>
<tr>
<td>3 What kind of difficulties, if any, do you think mothers of young children (0-5) may have?</td>
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<tr>
<td>4 What kind of difficulties, if any, a mother with depression may face in an effort to seek for help?</td>
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<tr>
<td>Signs and Causes of Depression</td>
</tr>
<tr>
<td>5 How would you describe a mother experiencing problems with depression?</td>
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<td>6 What do you think about the main causes of depression in mothers of young children?</td>
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<tr>
<td>7 What worries you most about maternal depression?</td>
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<td>8 What do you think are early signs of maternal depression?</td>
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<td>9 How would you identify a mother with severe depression?</td>
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<tr>
<th>Dealing with Maternal Depression</th>
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<tbody>
<tr>
<td>10 How would you manage a mother with depression?</td>
</tr>
<tr>
<td>11 What do you think are the most effective ways to support mothers dealing with depression?</td>
</tr>
<tr>
<td>12 How do you think the role of pediatricians and health visitors can be improved in supporting mothers with depression?</td>
</tr>
</tbody>
</table>
What do you think the reaction of mother would be if you talk to her about depression?
If you suspect that a mother has problems with depression what do you do?
What do you think about when thinking about discussing depression with the mother of a patient?

Barriers and Facilitators to Detection and Management of Depression

What barriers, if any, do you face in order to detect or provide a referral for mothers with depression?
What would facilitate the detection and management of maternal depression in your setting?
What may increase the possibility for you to implement detection and management practices in the future?
Is there anything else you would like to talk about?

The data were analyzed by using the framework analysis approach which includes five main steps: familiarization, identifying a thematic framework, indexing, charting, mapping and interpretation [33-36]. Three researchers led the data analysis with important contributions of the coauthors. Transcripts were read to detect key themes and main categories. Systematic meetings of the research team were carried out in order to review emerging themes and categories and develop the thematic framework. In the final stage of framework analysis, charts were used in order to specify the main concepts but also to map and find associations among themes. Differences and patterns in views and experiences between groups (pediatricians and health visitors) in key thematic areas were also examined.

Results
Sample demographic characteristics are presented in Table 2. Most of the participants were female (73%) and practicing between 5-10 years (46%). Given that half of the interviewees were health visitors practicing in Maternal and Child Protection Centers, the majority (62%) of the participants appeared to practice at the above setting.

Table 2. Participants Demographics (n=26)

<table>
<thead>
<tr>
<th>Gender</th>
<th>n  (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>7 (27)</td>
</tr>
<tr>
<td>Female</td>
<td>19 (73)</td>
</tr>
<tr>
<td>Age (years)</td>
<td>28-56 (range)</td>
</tr>
</tbody>
</table>
### Profession

<table>
<thead>
<tr>
<th>Profession</th>
<th>Count (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pediatricians</td>
<td>13 (50)</td>
</tr>
<tr>
<td>Health visitors</td>
<td>13 (50)</td>
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</tbody>
</table>

### Years practicing pediatric primary care

<table>
<thead>
<tr>
<th>Experience</th>
<th>Count (Percentage)</th>
</tr>
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<tbody>
<tr>
<td>&lt;5</td>
<td>8 (31)</td>
</tr>
<tr>
<td>5-10</td>
<td>12 (46)</td>
</tr>
<tr>
<td>&gt;10</td>
<td>6 (23)</td>
</tr>
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### Setting of Practice

<table>
<thead>
<tr>
<th>Setting</th>
<th>Count (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centers for Maternal and Child Protection</td>
<td>16 (62)</td>
</tr>
<tr>
<td>Private primary pediatric practice</td>
<td>10 (38)</td>
</tr>
</tbody>
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### Mother’s Mental Health in General

The majority of the respondents provided descriptions of emotional wellbeing rather than mental health. They pointed to important aspects of maternal and child mental health such as the quality of mother-child interaction and relationship and woman’s adjustment to the role of motherhood.

“The most important thing for child’s mental health is the establishment of a good relationship with the mother. Maternal mental health is a woman’s ability to adapt in motherhood and create a supportive environment for child development. Maternal mental health is related to the balance between different roles.” (HV 05)

“A mentally healthy child is a happy child. The emotional status of a child is the most important thing for its mental health. And I have to say that child’s emotional status is easily observed by the pediatrician.” (PED 11)

It should be noted that very few of the pediatric primary health care professionals acknowledged the importance of the antenatal and perinatal period to maternal mental health and also the fact that mental health is affected by several environmental factors. Apart from mother’s appearance and child care skills, many participants connected maternal mental health with the level of communication and collaboration between mother, child and the pediatric health provider.
“I guess that a mother with good mental health is looking good, has a good relationship with her child...When she comes for a well-child visit you can see how she is treating her child. She is not anxious about the medical examination and as a result she can calm her child. She has an effective communication with the pediatrician and cooperates with the whole team very well.” (PED 07)

All of the participants were aware about maternal depression and the importance of maternal mental health and wellbeing for the child’s development. They believed that it was part of their role to discuss about mental health during well-child visits though they stressed the importance of additional training in order to feel more confident.

“It is definitely in my role to detect depression and mental health problems in mothers, babies, toddlers and adolescents and provide referrals. But I need additional training. It’s not so simple... If I do not have appropriate training how would I provide appropriate help?” (PED 01)

Almost all participants acknowledged that mothers often strive to meet the needs of their child and family. Moreover, health providers expressed increased concerns about the additional burden of the current financial crisis on maternal mental health.

“If a mother continues to work after childbirth, she has a lot of problems... It is very difficult to combine motherhood and job. It is too demanding. On the other hand, if a woman is unemployed, because this is the case in Greece right now, she may feel that she has plenty of time with her baby, but she is not satisfied with her life and thus cannot manage everyday difficulties such as breastfeeding, baby’s cry etc... In our country, regulations for motherhood protection are insufficient or are not implemented -I don’t know-”. (HV 13)
All health professionals mentioned that the lack of social and family support and also stigmatization are the key difficulties for a mother to seek for help. Moreover, participants believed that the lack of social and family support is either a cause or a consequence of stigmatization.

“First of all, depression is stigmatized. If you are a mother you must be happy! You cannot say to your husband “you know, I want to give up all these, I can’t stand you or the child”. He will reject you and your feelings or he may underestimate the problem. In both cases mother will not have support from husband and family. She may feel isolated and despair.” (HV 10)

**Signs and Causes of Depression**

Both types of providers relied mainly on observational signs to identify mothers with maternal depression. Withdrawal, sadness, inadequate response to baby’s cues, weight loss and frustration were the main signs mentioned. They described depressed mothers as overwhelmed, sad, with evidence of neglect of personal and child hygiene, poor interactions with providers, and increased difficulties to follow suggested preventive practices.

“A mother with depression is usually very nervous and cannot deal with everyday issues such as child’s feeding, dressing etc... She is getting mad or frustrated very easily.... She may cannot recognize the child’s cry, needs and signals and worry a lot about insignificant issues. There also mothers who argue with me all the time and do not have a constant relationship with their child physician. They change pediatricians again and again, in an effort to seek for help for themselves. “(PED10)

“She looks very tired and overwhelmed, she is sad. If you try to talk to her you will see that she cries very easily, she is very emotional. In many cases she
is not interested in everyday activities and maybe life generally... You can see
the emotional withdrawal... She looks so fragile...” (HV 04)

It should be pointed out that participants found difficult to distinguish between early
signs of depression and clinical symptoms of major depressive disorder. Only a few of
them were able to make distinctions based on the frequency, intensity and duration of
each symptom.

“I cannot make such distinctions I am afraid.... Maybe a mother who is very
demanding... Or the opposite, disregards important things. I think that an
early sign of depression is when a mother reports exaggerated symptoms
towards child's physical health without any reasonable grounds... Or a
mother facing difficulties to follow pediatric preventive practices or
medication prescription. A mother with early depressive signs just tries to do
whatever she can, while a mother with major depression is emotionally
withdrawn”. (PED 05)

Additionally participants attributed maternal depression mainly to the lack of the
social and family support, financial problems and unemployment, while some
mentioned preexisting depression condition. Many of the health providers reported
that the most severe consequences of maternal depression are self-harm or harm of
others, abuse, neglect, and developmental problems to the child. Severe consequences
associated with short term outcomes were more easily pointed out by health
providers, compared to medium depressive symptoms with long term effects on
maternal and child mental health.

“First of all the possibility of infanticide or suicide, neglect, abuse. Apart from
these a mother with depression cannot respond sufficiently to a child’s needs.
She cannot support healthy choices towards child’s nutrition. Many children
of depressive mothers eat unhealthy foods or they do not eat solid foods, as they should, according to their developmental stage”. (PED 03)

“Child abuse and neglect...The negative impact on a child’s mental and physical health. The failure to follow vaccination schedule and preventive practices but also things such as... Infanticide, suicide or self-harming behaviors”. (HV 01)

**Dealing with Maternal Depression**

Most participants stated that they faced important difficulties around discussing depression with mothers. Respondents believed that mothers may be in denial or feel judged and stigmatized and would not be receptive to an option like referral.

However, respondents reported that the establishment of rapport and an ongoing relationship may facilitate the maternal disclosure of depressive symptoms. They also pointed out that targeted training interventions focused on strategies about discussing depressive symptoms are needed; not just general training in communication skills.

Furthermore, a majority of pediatric primary health care providers linked their own difficulty to discuss depressive symptoms with stigmatization and hesitation to implement identification strategies. They stated that there is stigmatization among pediatric primary health care providers about maternal depression and this leads to the avoidance of discussing maternal mental health issues.

“It depends on my communication skills and the quality of the relationship which I have established with the mother until that moment. I don’t know, I don’t feel very confident discussing with mothers about depression. I believe that they have difficulties to talk about such issues. They may feel that I judge them, or that they are not good moms... I would like to find out how I can start
a conversation with a mother about depression without making her feel uncomfortable. I need to know how to manage the situation”.

“I don’t feel very confident to talk about depression… Maybe I do not have the appropriate skills… But there is also stigma… I don’t know how to start such a conversation. A screening tool may help to start a discussion about depression. But if the score indicates depression? What should I do? …I need a routine process for detecting and managing maternal depression. That would help”.

As stated above, the providers relied mainly on observational signs to identify mothers with maternal depression. According to participants, the detection process of mothers with depression was comprised of two main steps. At first the pediatrician or health visitor looked for observable symptoms. In case that such symptoms were perceived, then the health provider started asking questions to investigate the severity of the problem so as to decide if it was necessary to provide a referral. Asking questions is an essential but challenging process for most of the respondents. In terms of management practices, participants attempted to provide a referral for mild depression, but in cases of severe depression in addition to the referral they said that they took additional actions to ensure that both mother and infant were safe. Respondents preferred to provide a referral to a mental health specialist rather than to a community mental health service.

“I try to discuss with the mother about her difficulties… It is very important to establish rapport and talk to her about the situation. I want to learn more about her thoughts, feelings, how she is perceiving the whole thing… After that I will provide a referral for a full psychiatric assessment”.

(HV 08)  
(HV 11)  
(PED 04)
In mild cases, I will try to suggest a visit to a mental health specialist for further help. I will try to talk about it in a way… you know… without talking about depression but talking about difficulties, let’s say… But if I believe that her child is in danger, I will be more active. I will call her husband and family and provide referral immediately; I have to ensure that she and the child will be safe”. (PED 02)

In addition, many of the respondents believed that mothers were in denial and discussion about depression would increase stigmatization.

“Not to mention that if I suggest a visit to a psychiatrist for example, she will answer, ” why do you suggest that? Do you think I’m crazy?” and she will never talk to me again about depression.” (HV 07)

“Usually mothers are in denial. They do not suspect that they have problems with depression… I hesitate to suggest her to visit a mental health specialist because of the stigma. I feel that if I say something like that, she will leave. On the other hand, if she looks for help and asks me about depression, I would feel more comfortable to discuss it. If she doesn’t… Well you know it may be difficult…” (PED 08)

Barriers and Facilitators to Detection and Management of Depression

Barriers

Provider’s level

Health professionals in this study reported also barriers at provider and systemic levels. All participants pointed out lack of time and inadequate training as main barriers to implement detection and management practices for maternal depression.

“I do not have the time and readiness to respond always in an effective way… Although I try to develop rapport and a supportive relationship with the
mothers of my patients, it is difficult to accomplish it with a depressive mother. I have never received such training.” (PED 6)

“I don’t feel very confident to discuss with a mother about depression. There is a lot of pressure at work, and I do not have the time. In many cases the system does not allow me to do my job. I mean they ask me to do the vaccination and stuff but do not pay attention to mental health issues. In my opinion mental health is not a priority for Greek National Health System. Of course, if I have the training maybe I could do something more… Maybe... It is very important for me to feel confident about my skills”. (HV 12)

Apart from stigmatization, respondents attributed their hesitation to discuss about depression to their limited knowledge about the appropriate community referral resources. Although primary health providers stated that they tried to refer mothers to mental health specialists for additional help, they pointed out that their insufficient knowledge about community referral resources led to a decreased possibility for a mother of low socioeconomic status to get appropriate help.

“Though we spend a lot of money as a country, we still don’t know the available community mental health services and we don’t use them”. (HV 09)

Most pointed out that they were not aware about the available mental health services in their community and if they had to provide a referral they would prefer a private mental health specialist.

“I do not know the availability of community mental health services. As a result I would provide referrals to private mental health specialists and in many cases the patient cannot afford it”. (PED 12)

“There are important access difficulties to mental health care services. It is so unfair... There are community mental health services of good quality, but
health professionals don’t know anything about them! As a result, many mothers do not receive the help they need because if we don’t know the public mental health services to refer them the only solution is a private mental health specialist. And the cost for this is usually high... I mean, how can you pay 40-50 euros per visit if you are unemployed?” (HV 06)

“I need more training in order to feel confident to talk about depression and convince mother that I suggest a qualitative mental health preventive service for her and the child.” (PED 09)

Furthermore the participants believed that community mental health services were of low quality and availability. Additionally they emphasized the importance of training to address stigmatization since they reported that stigma is quite high among pediatric primary health care professionals.

“Mothers in our country are suffering a lot until they find a solution. There is stigmatization especially for new mothers. Stigmatization does not only arise from friends and family but also the health professionals”. (HV 06)

“Motherhood in the context of the Greek society is considered as a state of happiness and fulfillment. A Pediatrician on the other hand is a “good” physician who should confirm the above belief about motherhood and is not allowed to ask questions which may erode it. I think that there is stigma in both cases... When I consider the problems mothers must face in order to find help for depression, I feel discouraged...Training is essential to address stigma and misconceptions about maternal depression.” (PED 13)

**Systemic level**

Most participants reported lack of free and available community mental health services, lack of an in-office mental health specialist, fragmentation of primary health
services, lack of collaboration between primary health and mental health services and inadequate continuity of care as the core systemic barriers for detection and management of maternal depression.

“If I knew that there was an in-office mental health consultant or a mental health service in the community, for free or at low cost, I would feel more comfortable to provide a referral.” (PED 07)

“A referral to a private mental health specialist poses an additional financial burden to the mother and decreases the possibilities to receive appropriate help”. (HV 03)

“There is no collaboration between health and mental health services, not to mention the weak and fragmented primary health care system… Continuity of care is not established yet within the public health care system.” (PED 10)

**Facilitating factors**

The majority of pediatric primary health care providers believed that training on maternal mental health issues and accurate tools that are brief and easy to use in everyday practice may significantly facilitate the detection process. The lack of confidence in being able to ascertain whether the observed symptoms are depressive, makes the detection process even more challenging. Providers suggested that targeted training interventions will be beneficial at improving detection rates, by addressing stigma and increasing knowledge and skills regarding identification and management of maternal depression.

“I need a specific training which would result in a standardized detection and management process... A step by step process which I can incorporate easily into my daily clinical practice. And also an easily accessed informational resource which I can trust.” (PED 04)
“If we had training, I think that could discuss more easily despite the additional barriers. I think training can overcome stigma to some extent...” (HV 11)

“If we had more training towards depression we will be more confident to identify the impact on child’s health (for example) and respond in an accurate and appropriate way to mother and child. In other words we will be more effective”. (PED 13)

Almost all health professionals believed that large awareness campaigns could be beneficial for the elimination of depression stigmatization. They also suggested that targeted interventions for the prevention of maternal depression could increase both mother and family awareness and would result in a more favorable attitude of mothers regarding management practices.

“TV spots and social media large scale campaigns could increase awareness for stigmatization of depression and improve detection and mother’s family support.” (HV 01)

Finally, many providers noted that the availability of a mental health specialist for consultation would result in improved detection rates as well as the improvement of collaboration between health and mental health services and the availability of low cost treatment options.

“Of course, the collaboration between health and mental health professionals would help. If I could call a psychologist for example and learn more about depression I would feel more confident about my practices”. (PED 03)

“Qualitative community mental health services are essential but also the collaboration between health and mental health professionals and services. A child may exhibit physical symptoms and developmental problems as a cause
or a consequence of maternal depression. We must have an effective way to refer to an appropriate health or mental health service for additional help.” (PED 06)

“The availability of community mental health services at low cost. Easy access to mental health services without waiting for too long. To get the help you need at the right time”. (HV 05)

**Discussion**

Although participants in the present qualitative study reported that detection and management of maternal depression is in their role, they stated that additional training is required in order to feel secure to implement detection and management practices. Both pediatricians and health visitors acknowledged the importance of early detection and management of maternal depressive symptoms in order to prevent negative consequences on a child’s physical, mental and social health and development. On the other hand health professionals pointed to barriers at many levels making them reluctant to discuss depression with mothers. None of the pediatricians or health visitors who participated in the study reported the use of a screening tool in order to assess depressive symptoms. Previous research indicated that relying on observation and other nonspecific methods is not an effective way to identify maternal depression [37] and most of the guidelines recommend the use of standardized screening tools for maternal and postpartum depression [38-40].

Important differences but also commonalities are revealed when comparing the present results with previous research findings. The main barriers found here have been highlighted in previous studies. The inadequate training on maternal mental health issues, the lack of time, the perceived low quality of community mental health
services and the perception that mothers are in denial towards depressive symptoms, have been reported in previous qualitative studies [37, 41, 42].

The comparison of the present qualitative study which was carried out in the context of a country with a weak primary health care system with similar studies conducted in developed countries with strong primary care provides some interesting insights. In contrast to what AM Heneghan, S Morton and NL DeLeone [37] have found, pediatricians and health visitors in our study believed that mothers were not receptive to discussing depression and accepting a referral from their child’s physician. Moreover, providers expressed concerns about starting a conversation with mothers about depression and emphasized that they need specific training in order to feel confident to introduce the issue; otherwise their efforts to talk indirectly about depression are inefficient and doomed to fail. The majority of both pediatricians and health visitors acknowledged the fear of stigmatization as a key barrier for detection and management of maternal depression and linked their hesitation to start a conversation about maternal depression with stigma. This is different from what was found in other studies. AL Olson, KJ Kemper, KJ Kelleher, CS Hammond, BS Zuckerman and AJ Dietrich [43] have found that only 25% of pediatricians reported stigma as a barrier, and AM Heneghan, S Morton and NL DeLeone [37] revealed that less than a third of pediatricians participating in their study have either reported stigma as a barrier or linked stigmatization as an obstacle to discuss with mothers about the issue. Additionally, CA Chew-Graham, D Sharp, E Chamberlain, L Folkes and KM Turner [42] suggested that health visitors did not cite fear of stigmatization as a barrier to talk to mothers about depression, however general practitioners did. N Byatt, K Biebel, RS Lundquist, TA Moore Simas, G Debordes-Jackson, J Allison and D Ziedonis [41] also found that perinatal health professionals pointed to fear of
stigmatization as a main barrier for the acknowledgement of maternal depression. A possible explanation for the increased stigmatization reported among pediatric health professionals regarding maternal depression in the present study could be sought in the context of the weak primary health care system. The result of the inefficiently decentralized psychiatric services and the provision of mental health services only by specialists at the secondary and tertiary health care level, is maternal depression which is considered as a specific health condition demanding pharmaceuticals and specialized care [29, 31]. This is enhancing the stigmatization and misconceptions about maternal depression and impedes the integration of maternal mental health into the primary care [31]. On the contrary, in countries with strong primary care, the stigmatization seems to be reduced mainly due to fact that primary health care services are not linked to specific health conditions and as such they are much more acceptable and accessible for mothers and families [29, 44]. Furthermore, the multi and interdisciplinary teamwork, the intersectoral partnerships, and the collaboration with community agencies and mental health services established within a strong primary health care system facilitate mothers and families to seek for help and reduce social exclusion [28, 31, 45]. On the other hand, in countries with a weak primary care system the collaboration between community health and mental health services is rare. In many cases the community organizations (e.g. nongovernmental organizations-NGOs) strive to establish their reputation and gain the trust of the community. Another key difference between weak and strong primary health care systems is the approach of the health care providers in every day practice. In general, providers in countries with weak primary care systems dominated by specialized services usually stick to the biomedical model [29]. They do not have adequate training in mental health issues and as a result they cannot adopt a holistic strategy in
every day practice, failing to implement patient-centered approaches [45]. Consequently, health providers working in a weak PHC system cannot make a particular contribution to increase the mental health literacy of the population [46]. It should be noted that mental health literacy is associated with stigma, help seeking behavior and recognition of the mental health conditions [46]. In summary, the inadequate training on maternal mental health issues, the limited knowledge about referral resources, the perceived stigma, the lack of social and family support but also the fragmented primary health care system and the inefficient collaboration between health and mental health services resulted in an unfavorable situation towards maternal mental health.

None of the health professionals in the present study expressed any kind of concerns associated with treatment delivered for maternal depression. All of them suggested referral to a mental health specialist or a community mental health service as the only option for management, avoiding involvement in a discussion about different options. Previous research showed that pediatricians, obstetricians, gynecologists, and general practitioners who provide counseling and treatment for mothers with depression reported associated barriers such as mother’s hesitation to receive antidepressants [19, 37, 41-43]. Although pediatricians in Greece are legally permitted to prescribe antidepressants, however this is not a common practice. As a result, pediatricians who participated in the present study may have believed that treatment (e.g. prescribing antidepressants) was not within their remit and thus they did not mention anything about it.

Differences in the organization and staffing of pediatric primary health care settings across countries may have resulted to variances in findings between several qualitative studies. AM Heneghan, S Morton and NL DeLeone [37] revealed that
pediatricians in United States rely on social workers in order to address systemic barriers (e.g. lack of time) for detection and management of maternal depression. Moreover in many countries (e.g. Canada, USA, U.K., Australia) pediatric and maternal primary health care services are provided by inter or multi-disciplinary health care teams or at least by a team consisting of a pediatrician and a health visitor or a registered nurse [42, 47]. In Greece, there are limited resources in most pediatric primary health care settings, making the incorporation of mental health issues in primary care more challenging. The provision of treatment almost exclusively by mental health specialists (e.g. psychiatrists) and the systemic differences in primary health care settings may provide an explanation about the reason that all health professionals in the present study considered referral as the only management option. The findings of the present study are subjected to the following limitations. First of all, it cannot be claimed that the aforementioned opinions expressed by health professionals are representative of the total population. The study was conducted in the context of a weak primary health care system outweighed by the secondary and tertiary health care services (Lionis et al, 2009). Within this system, pediatricians (and physicians in general) have higher work and power status compared to non-physician providers (e.g. health visitors). It was expected that health visitors would display different opinions and patterns compared to pediatricians. We decided to use interviews and not a different method (e.g. focus group discussions) for data collection, in order to avoid potential confounders due to participants’ interplay. However, the analysis of data revealed that pediatricians and health visitors shared common opinions and patterns. This may be attributed to the fact that the interviews were conducted with those who were willing or were more available to participate.
Perhaps there were pediatricians and health visitors who were difficult to reach (e.g., due to workload) and whose opinions would differentiate the results.

The object of the present study in terms of public health was to inform policies and improve the involvement of the pediatric primary health care providers with maternal depression prevention. Our aim was not the generalizability of the results but the provision of critical information. Thus, we decided to use purposeful sampling because we were interested in “information rich” cases (Devers & Frankel, 2000). This information may be helpful for researchers, public health agents and policy makers, in order to develop interventions and policies for the integration of the maternal depression into the primary health care context. Due to the financial circumstances in Greece, especially in the last two years, it was deemed as necessary to select participants who were involved in the past in detection and management practices for maternal depression and continue to provide such services during the recession. On the other hand, this may have affected the results. A possible comparison between professionals providing services only before the financial crisis and providers who still deliver detection and management services for maternal depression could have resulted in different findings.

**Conclusions**

Despite the limitations, the present study may provide useful information to the understanding of the factors associated with identification and management of maternal depression in countries with weak primary health care systems and limited resources. Health providers indicated stigmatization as a key barrier to discussion of depressive symptoms. They also suggested targeted training interventions as an important facilitator in order to overcome this obstacle. Future studies exploring the views of pediatric primary health care providers but also depressed mothers towards
detection and management of maternal depression in the context of a weak primary health care system are needed in order to provide evidence and inform policies and interventions for the successful integration of maternal mental health into primary pediatric setting.

**Competing interests**

The authors declare that they have not competing interests.

**Authors’ Contributions**

EA: conceptualization, design, data analysis, reparation of manuscript, editing. KS: data analysis and elaboration, preparation of manuscript. SJ: design, comments on first and second draft, revising. VB: supervision of the data collection, editing. SC: comments on first draft, editing. CD: design, data analysis. YT: overall coordination, comments on first and second draft. All authors contributed to the interpretation of the data and have read and approved the final manuscript.

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