

Stigma and Perceived Threat Regarding Peripartum Depression among Pregnant Women in a “Pregnancy Friendly” Community

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Abstract

Background: Peripartum depression (PPD) is identified globally as a major maternal morbidity. Stigma and underlying perceptions such as perceived threat which includes perceived severity and perceived susceptibility regarding PPD can interfere with timely identification, help seeking and, treatment acceptance, hindering efforts to control maternal mortality and morbidity due to this disease.

Methods: A cross sectional study was conducted among pregnant women with a period of gestation more than 12 weeks attending field antenatal clinics in Anuradhapura district, Sri Lanka. Multistage cluster sampling with probability proportionate to size was used for sampling. Self-completed questionnaire with a vignette describing a postpartum mother with symptoms of peripartum depression (part A) and accompanied suicidal ideation (part B) was given to participants. Based on the vignette, agreement on stigma and perception statements were marked in a five point likert scale. An exploratory factor analysis was conducted on stigma statements. Including the factor scores, agreement to perception statements and selected socio-demographic variables, a logistic regression model was run to explain the perceived susceptibility.

Results: Out of the 624 participants, 60.7% (n-379) perceived that they are not susceptible to develop a mental health problem during antenatal or postnatal period of the pregnancy. Though 86.2 % (n-525) had heard about PPD, its symptoms and even suicidal ideation were normalized by 55.9% (n-260) and 49.5% (n-280) of participants respectively. About 79.1% (n-468) thought that symptoms would resolve without treatment. By exploratory factor analysis on stigma statements (χ^2 80.376, $p < .001$), a two factor solution was achieved. Factors were interpreted as judgmental and nonjudgmental stigma. Mainly nonjudgmental stigma was evident among participants. Direct logistic regression for predicting the perceiving personal susceptibility to a perinatal mental illness (χ^2 =31.474, $p = 0.017$, $N = 329$) revealed that only factor score for nonjudgmental stigma became statistically significant in the model (OR -0.691 $p=0.029$).

Conclusion: Perceived threat from symptoms of peripartum depression and even suicidal ideation is low in this community. Presence of nonjudgmental stigma in this community also shows the need for social interventions to address these issues related to PPD and related morbidities.

Background

Further reduction of maternal mortality and morbidity in par with sustainable development goals is a global challenge. Easily preventable direct cause of maternal deaths are declining in many places and conditions such as suicide are emerging as leading causes of maternal deaths in high income countries as well as low and middle income countries with good maternal care programmes [1]. When the misclassification is corrected, suicide has been shown to be the leading cause of global maternal deaths [2]. Suicide is the most devastating outcomes of maternal depression [3], the commonest mental health problem in pregnancy [4].

Prevention of mortality and morbidity associated with peripartum depression (PPD) requires early identification and prompt treatment of the condition. However, health seeking behaviors for mental health conditions are heavily influenced by stigma, disease perception and socio-cultural beliefs.

According to the health belief model, perceived threat is an important determinant on the decision to engage in a health promoting behavior. Perceived threat includes the perceived susceptibility and the perceived severity [5]. We adopted this concept and studied the perceived susceptibility to a peripartum mental illnesses and perceived severity of symptoms of PPD which are likely to influence help seeking for PPD.

Stigma regarding PPD in the at-risk population i.e; pregnant and postpartum women is another important factor as stigma held as an unaffected person might operate as perceived, internalized or anticipated stigma if the person is affected. All of these types have been shown to interfere with help seeking for the disease, diagnosis acceptance and treatment adherence [6, 7, 16–20, 8–15]. On the other hand, studying stigma among pregnant women can provide a valuable insight about their community, with which they share the belief systems. Stigma and perceptions in the community are determinant on outcomes of conditions like PPD where it is difficult for women to access support and timely treatment by her-self due to barriers created by womanhood, drastic lifestyle changes, physical limitations; burden of childcare, economical vulnerability and social norms.

Sri Lanka maintains a good maternal health status compared to its socioeconomic position. Apart from the health system, relatively favorable socio cultural status of women as evident by factors such as high female literacy rates and higher female life expectancy has largely contributed to this achievement [21]. Generally, Sri Lankan community is 'pregnancy friendly' and the social capital during pregnancy has been shown to be high [22]. Perinatal mental health has already been identified as an important issue in Sri Lankan maternal health programme. Screening and health education regarding PPD has been introduced to recommended routine maternal care [23]. However the estimated prevalence of postpartum depression has shown to be as high as 27.1% [24, 25] with suicides among top causes of maternal deaths in the country [26], showing that the country needs further strategies to tackle this problem. An insight about the stigma and perceptions regarding PPD in the society would be a key element for the success of such strategies.

This study was conducted to describe the stigma and perceived threat related to peripartum depression and suicidal ideation in a community with high pregnancy social capital. To our knowledge this is the first quantitative study in published literature exploring stigma and perceptions regarding peripartum depression.

Methods

Study settings

A cross sectional study was carried out in field antenatal clinics in Anuradhapura District from 7th August 2018 to 7th September 2018. Anuradhapura is one out of 25 administrative districts in the country with a population close to 0.9 million [27]. The district is having very high suicide rates [28] and suicide is reported as the leading causes of maternal deaths. There are 20 medical officer of health (MOH) areas covering entire district, which conduct field antenatal clinics at village level where pregnant women are provided with an antenatal care package under national maternal health programme. These field clinics are conducted at village level. Attending the antenatal clinics at least once was reported by 96% of antenatal women [29].

Study Population and Study Sample

All pregnant women with a period of gestation (POG) more than 12 weeks and visiting field antenatal clinics in Anuradhapura district were included in the study population. Pregnant women attending antenatal clinics in Anuradhapura, but not residing in Anuradhapura district (temporary visits) and those who are mentally handicapped and are unable to provide reliable answers for the questions were excluded.

Minimum sample size was estimated assuming that the prevalence was 50%, level of confidence was 95% and precision of 5%. Design effect (de) was selected as 1.5 as some homogeneity between clusters is expected. Response rate of 95% was applied. Estimated minimal sample size was 606.

Multi-stage cluster sampling with probability proportionate to the size was used for sampling. In the first stage of sampling, five (05) out of the 20 MOH areas in Anuradhapura district were selected randomly using a computer generated random number sequence. Only five MOH areas were selected due to feasibility issue. Clusters were selected from field clinics. Based on clinic attendance data in selected MOH areas, cluster size was determined to be 25. Total of 25 clusters were required to achieve the minimum sample size.

All the field clinics providing antenatal care in the selected MOH areas were listed in alphabetical order. Size of the clinic was determined by number of second and third trimester pregnant women attending each clinic during month of June 2018. Probability proportionate to size method was used to select 25 clusters.

From each clinic, 25 consecutive, consenting pregnant women fulfilling eligibility criteria were recruited for the study.

Measuring stigma and perceived threat

A vignette describing experience of 'Ama', a postpartum mother of a one month old baby who is experiencing symptoms of peripartum depression (without suicidal thoughts) was given in part A. In part B, the vignette was modified as the same mother getting suicidal thoughts frequently. Selected aspects of

stigma and perceptions about symptoms of peripartum depression were included in the questionnaire as statements.

For conceptualizing stigma in the current study, mental illness stigma framework was used as it is more focused on individual experiences regarding stigma [30]. According to this framework, there are three main types of stigma; perspective of stigmatizer, perspective of the stigmatized and perceived stigma. From the perspective of the stigmatizer, there can be three aspects of stigma; stereotypes, prejudice and discrimination. They are respectively the cognitive, affective and behavioral responses towards the affected persons. Stereotypes are beliefs about characteristics of the affected people. Prejudice is how people feel about affected person and discrimination is unjust or unfair treatment towards affected person. Perspective of the Stigmatized has been described under experienced stigma (experienced in real life), anticipated stigma (anticipated to experience) and internalized stigma (endorse the negative beliefs and feelings for self). Perceived stigma is the perception about stereotypes, prejudice and discrimination from the society, which is stigma shared by both people with and without mental illness. All three constructs of stigma from perspective of stigmatizer as per mental illness stigma framework were included as statements.

Similarly to assess the perceived severity, statements regarding what participants may think about symptoms of PPD (part A of vignette) and suicidal thoughts (part B of the vignette) were included.

A five point likert scale was used to assess level of agreement (from strongly disagree to strongly agree) to each statement considering how participants personally feel after going through the vignette. Responses given as strongly disagree and disagree were classified as disagreement to the statements which meant not having that particular stigma/perception.

Participant perceived possibility of them developing a mental health problem during antenatal or postpartum period of current pregnancy was marked in an adjectival scale. Responses given as impossible were classified as not perceiving susceptibility and all other responses (may be possible, possible and definitely possible) were classified as perceiving susceptibility.

Study Instruments

Considering the sensitive nature of questions and high (94.6%) female literacy rates in the district [31], a self-completed questionnaire was used for data collection. Participants who found it difficult complete the questionnaire by themselves were assisted by data collectors.

To increase the internal validity a vignette should be constructed following assessment of existing literature, validated by a panel of experts and pretested [32].

This vignette was designed based on the DSM V diagnosis criteria for PPD [33]. Survivor stories presented in scientific literature, qualitative studies, and internet based postpartum depression support groups were also referred when designing the vignette and the statements on stigma and perception.

Opinion of reproductive age females in the same community and midwives, and doctors in the public health sector were also considered during the process.

The tool was validated by a panel of multidisciplinary experts which included a Consultant Psychiatrist, a Consultant Community Physician, a Medical Anthropologist, a Social Scientist, and two Medical Officers of Health (MOH) and a panel of public health midwives (PHMs).

Cognitive validation of the questionnaire was conducted with ten pregnant women. Pregnant women were asked to read the vignette and answer questions in the tool that were asked verbally from them. Then the thought process of respondents in giving a particular answer was assessed using probing questions on three aspects; comprehension of key phrases in the question/ vignette, applicability of the question to the community and sensitivity of the question/vignette. Answers were documented, and the questionnaire was changed accordingly.

The original vignette and the questionnaire were developed in Sinhala language and were translated to English and Tamil by professional translators. Consensus was obtained from three native Tamil health professionals regarding the Tamil translation.

The questionnaire was then pretested among pregnant women.

Data collection

A team of medical undergraduates were recruited and trained as data collectors.

Use of vignette can introduce socially desirability bias to the study. To minimize this, participants were given a structured introduction before data collection. They were reassured that identification information are not collected in the questionnaire and responses regarding perceptions will not be checked when they handover the filled questionnaire. They were also informed about the value of providing responses genuinely representing their perception and thoughts without worrying about being right or wrong.

Data Analysis

Data was entered by single entry technique. Manual verification was undertaken for 10% of the data. Data was analyzed using IBM SPSS version 22. Graphs were prepared using Microsoft Xcel.

Responses to stigma statements were subjected to an exploratory factor analysis using maximum likelihood extraction method. Oblimin rotation was performed. Prior to performing factor analysis correlation matrix was examined and many coefficients of 0.3 or above were observed. Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity were performed to confirm the suitability of data for factor analysis.

Direct logistic regression was performed using perceived susceptibility as the dependent variable. Factor scores obtained by factor analysis, age, average monthly family income and period of gestation (POG) were entered as continuous predictor variables. Having heard about PPD, knowing someone with PPD, having past diagnosis of a mental illness, having higher education and agreement to statements regarding perception were entered to the model as binary variables. Number of children they have was added as a categorical variable.

Ethical concerns

Informed written consent was obtained from all the participants. Ethical clearance for the study was obtained from the ethics review committee, Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka.

Results

A total of 624 pregnant women attending field antenatal clinics in Nuwaragampalatha East, Nochchiyagama, Thambuththegama, Ipalogama and Galnewa MOH areas participated in the study.

Participants were between 17 to 44 years of age. Mean age was 29 years (SD = 5). Monthly family income showed a right skewed distribution with a median of 220 USD (Inter quartile range 126.67).

Characteristics of the participants are presented in Table 1.

Table 1
Distribution of socio-demographic characteristics of study participants

Variable		Number	Percentage (%)
Ethnicity	Sinhalese	552	89.6
	Sri Lankan Moor	56	9.1
	Other	8	1.2
Religion	Buddhist	539	87.5
	Islamic	57	9.3
	Catholic/Christian/Hindu	20	3.2
Education level	Grade 5	7	1.2
	Grade 6 to G.C.E Ordinary level	288	47.7
	G.C.E Ordinary level	163	27.0
	Diploma or degree or above	146	24.2
Trimester	Second	333	54.5
	Third	278	45.5
Number of living children	None	199	34.6
	One	246	42.8
	Two or more	130	22.6
Has heard about antepartum or postpartum depression	Yes	525	86.2%
	No	84	13.8%
Know someone who has/had peripartum depression	Yes	110	18.4%
	No	488	81.6%
History of psychiatric illness	No	581	93.1%
	Of perinatal onset	7	1.1%
	Other psychiatric illness	14	2.2%
Suicidal thoughts during last week	Never	555	93.4%
	Infrequently	33	5.6%

Variable	Number	Percentage (%)
Frequently	6	1%

Perceived possibility of developing a mental health problem during antenatal or postnatal period of current pregnancy is presented in Table 2. Majority (60.7%, n- 379) had the perception that they are not susceptible to develop a mental health problem during antenatal or postnatal period of the pregnancy.

Table 2
Perceived susceptibility to a mental health problem during antenatal or postnatal period of current pregnancy

Perceived possibility	N	(%)
Impossible	379	60.7
May be possible	177	28.4
Possible	19	3.0
Definitely possible	8	1.3
Data missing	41	

Six pregnant women (1%) reported experiencing frequent suicidal thoughts during last week and of them, five (83.3%) had considered the possibility of them having a mental health problem while only 34.5% (n = 11) had done so among the 33 women with infrequent suicidal thoughts in the last week.

Agreement to statements stating the perception about symptoms of peripartum depression and suicidal ideation are presented in Fig. 1.

In the study sample, respectively 37.6% (n = 129) and 34.6% (n = 196) agreed or strongly agreed that the symptoms of PPD and suicidal ideation are common and normal in the postpartum period. Respectively 351 (59.3%) and 256 (45.5%) agreed or strongly agreed that though not normal symptoms of PPD and suicidal ideation may settle on its own quickly.

Out of the sample 205 (34.6%) disagreed or strongly disagreed that the symptoms are suggestive of a mental illness and 205 (36.6%) disagreed or strongly disagreed that having suicidal thoughts was a threat to the affected person's life.

Exploratory factor analysis on stigma statements revealed two components with eigen values exceeding 1 (Chi square 80.376, p-.000). The two component solution could explain 45.1% of the variance with

component 1 explaining 28.95% and component 2 contributing to explain 16.1%. Factor correlation was 0.195. Factor loading is presented in table 3.

By examining the factor loading it was evident that factor 1 consisted of statements that included a personal judgment about the affected person while factor two included statements which expressed an opinion about the affected persons condition without a personal judgment. Therefore factor one and two were termed judgmental and nonjudgmental stigma respectively.

Table 3 – Pattern and structure matrix for factor analysis with oblimin rotation of two factor solution for stigma statements					
	Pattern coefficients ^a		Structure coefficients ^a		Communalities
	1	2	1	2	
“I feel angry about behavior of Ama”	.489		.504		.260
“I feel pity towards Ama”	-.452		-.426		.198
“She should not have become a mother in the first place”	.743		.732		.539
“I do not wish to be a friend of Ama”	.659		.662		.438
“It is Ama’s karma/ God’s wish”	.544		.535		.288
“I feel angry about her husband”	.462		.498		.281
“Ama must be lazy”	.485	.318	.547	.413	.397
“Ama is not receiving enough support from her family”		.510		.472	.259
“Ama does not have the courage and strength that should be there in a mother”		.566		.566	.321
“Ama is a danger to her baby”		.451		.482	.258
“Ama doesn’t have a good family background”		.602		.627	.409

^a Only values > 0.3 are presented

Participants’ perception about stigma is presented in Fig. 2.

Feeling pity was the most prevalent prejudice (73.9%, n = 449). Even though not that common, discrimination was also present, as evident by 31.7% agreeing to not wanting to be friends with a PPD affected person.

Direct logistic regression model to assess the impact of number of factors on the perceived possibility of developing a mental health problem during this pregnancy or postpartum period was statistically significant $\chi^2 = 31.474$, $p = 0.017$ ($N = 329$). Model was able to explain between 9.1% (Cox & Snell R Square) to 12.4% (Nagelkerke R Square) of variance of help seeking intention and could correctly classify 66.3% of cases. Results are presented in Table 4.

Table 4

Logistic regression for perceived susceptibility of a peripartum mental illness among pregnant women in Anuradhapura district

Variables	Odds ratio	p	95% C.I. for OR		
			Lower	Upper	
Factor 1 – Judgmental stigma	.900	.509	.660	1.229	
Factor 2- Nonjudgmental stigma	.691	.029	.497	.963	
Not having heard about antepartum or postpartum depression	1.015	.970	.471	2.189	
Not knowing someone suffered/ suffering from peripartum depression	.589	.077	.327	1.058	
Age	1.001	.961	.949	1.057	
Family income	1.000	.336	1.000	1.000	
Not having a diagnosed mental illness earlier	.202	.065	.037	1.102	
Not having higher education	1.309	.355	.740	2.315	
Period of gestation	1.001	.959	.976	1.026	
Agrees that Ama's condition is normal. Almost everyone feels like that after having a baby	1.221	.438	.737	2.024	
Agrees that it is not normal but it will resolve on its' own in a while	1.450	.285	.734	2.862	
Agree that symptoms are likely to be a mental health problem	1.401	.227	.810	2.420	
Agrees that suicidal thoughts are normal. Almost everyone feels like that after having a baby	1.221	.442	.734	2.032	
Agrees that it is not normal but it will resolve on its' own in a while	1.750	.069	.958	3.198	
Agrees that Ama's life is at risk	1.181	.539	.694	2.010	
Number of live children	None	.305			
	One	1.144	.712	.560	2.336
	Two or more	1.545	.157	.845	2.824

Only factor score for the second factor (nonjudgmental stigma) was statistically significant for predicting the perceived susceptibility. When the factor score for nonjudgmental stigma decreases by 1 unit the odd of reporting a perceived possibility for a mental illness decreases by a factor of 1.4.

Discussion

The present study clearly shows that despite having embedded awareness programmes in the pregnancy care package, Sri Lankan pregnant women perceive very low threat from symptoms of PPD and even suicidal ideation. They tend to normalize the symptoms. Majority believe that they are not susceptible to develop a mental illness during this pregnancy or postpartum period. Conducted in a community with high social regards for pregnancy, this study also reveals that significant amount of stigma; specially nonjudgmental sigma regarding PPD among pregnant women.

Perceived Severity

The dilemma about what are abnormal emotions and what are normal emotions in peripartum period has been reported as a key challenge for women when deciding to seek help [7, 11, 13, 34–36]. We observed the same phenomena, with only 44.2% of the sample disagreed or strongly disagreed that the symptoms were common and normal in peripartum period and 34.6% did not perceive that the symptoms may be indicative of a mental illness. This thinking has only slightly improved, when suicidal thoughts were included in the vignette. Denying that these symptoms could indicate a mental illness may be due to stereotyping presentations of mental illnesses as rather severe and psychotic.

Vignette based studies have shown that the ability to identify symptoms of depression as a mental health problem is high among young Sri Lankans (71% in undergraduates and 82% in adolescents [37, 38]). This is not reflected in this study, possibly due to the complex nature of the scenario where depression occurs on top of lot of significant changes to the lifestyle. Inability to distinguish symptoms as abnormal even when most of the participants had had heard about PPD previously, also draws attention to the issue of effectiveness of current health education programmes regarding.

Difficulty in conceptualizing their symptoms has been reported to be associated with lack of shared experience in several cultures [13, 15]. Only 18.4% of participants knew someone having the condition which may partly contribute to the lack of ability to identify vignette scenario as a mental illness. Relating real life experiences and scenarios during health education, and reducing barriers to sharing PPD experience of survivors would help this community to identify symptoms early.

Educating pregnant mothers to recognize danger signs during pregnancy and postpartum period is routinely practiced under the national maternal health programme and suicidal ideation is listed as one of the danger signs that need immediate medical attention seeking [23]. Despite this, more than one third (36.5%) of participants did not recognize that suicidal thoughts could indicate a risk to affected mother's life. In fact, even among mothers who reported as having suicidal ideation currently, only 41% suspected the possibility of themselves having a mental health problem. Another study in Anuradhapura district

reporting on transfer of knowledge from public health midwives to primary mothers have also reported poor maternal knowledge about mental status [39]. Reasons for this implementation gap need to be identified and addressed.

About 80% thought that symptoms, though not normal would resolve on its own without treatment. This belief has been reported as a barrier for seeking help in majority of Nigerian (76.1%) and in a lesser percentage (11%) of Australian women with PPD as well [12, 40]. While the affected women wait for symptoms to resolve on their own, they risk the occurrence of short and long term adverse outcomes such physical, nutritional and emotional neglect children, and even maternal suicides. Therefore this perception needs to be corrected.

Stigma

We hypothesise that identifying stigma among a representative sample of pregnant women would provide an insight to internalized and anticipated stigma a women suffering from PPD in that community is likely to endure. It would also provide some understanding about experienced stigma through identifying community beliefs. Perceptions among such a sample would also reflect perceptions that are most likely to be held by an affected person in the same community. Therefore health education targeting to address stigmatizing views and incorrect perceptions held by significant proportion of participants will yield better outcomes in terms of help seeking behaviors.

Factor one; judgmental stigma included statements that contained a personal judgment about the affected person/ her husband in the form of stereotyping, prejudice or discrimination. All statements except 'feeling pity' (which loaded negatively to factor one) are also devoid of empathy. For an example, the situation is judged by the respondent and they feel angry or pity about the affected person (prejudice). On the other hand the second factor includes statements that describe the opinion of the participants towards PPD situation. Outcomes of their judgment; how they feel about that affected person, how they presume to act etc. is not included. For example it includes statements saying Ama is not receiving enough family support, she doesn't have courage and strength, and she doesn't have a good family background. Even when it says she is a danger to her baby, it is just what is attributed to the situation. No further personal feelings or presumed actions are included.

Majority (> 50%) of the participants disagreed or strongly disagreed to all the judgmental stigma statements except 'feeling pity'. Viewing with results of factor analysis, most commonly held stigmatizing views were those classified as nonjudgmental stigma (except feeling pity) which may be due to high social regards for motherhood. However, even for the statements with highest percentage disagreement, about one fifth of the participants had expressed agreement or strong agreement. For an example, 18.1% (n = 108) strongly agreed or agreed that they did not wish to be a friend of an affected person. Their expression of stigma was regarding symptoms of peripartum depression in a context where many tempted to normalize the symptoms. Stigma associated with a diagnosis of a mental illness will be different from this picture and need to be studied further.

Perceived Susceptibility

If someone perceives that there is no possibility of them ever developing a mental illness, it is unlikely that they will suspect and recognize symptoms of mental illnesses if they occur. They are also less likely to seek help or accept a diagnosis [41][42]. Therefore, being open to the idea that they are susceptible for mental illnesses is a cornerstone for recovery. In this study sample, only about one third of the participants perceived at least a slight possibility to develop a mental illness during current pregnancy or postpartum period. Similar pattern of thinking has been described in some qualitative studies. For an example, ethnic Black Caribbean women have reported the perception that they are not vulnerable to PPD as they are historically adopted to bear adversities or as they are 'strong black women'[43]. Stereotyping mental illnesses as dangerous has also led to similar beliefs [43][41][42]. Reasons behind this find in the studied community need to be further explored.

In this study population, odds of reporting a possibility of developing a mental health problem during current pregnancy or postpartum period would rise by a factor of 1.03 to 2.03 when the nonjudgmental stigma decreases. Participants may have tended to evaluate their own social conditions (such as family background and family support) and personality traits (such as courage and strength) etc. against stereotypes they have regarding people developing peripartum mental illnesses when deciding their susceptibility. As a result, people with more nonjudgmental stigmatizing views would have perceived that they are not susceptible to peripartum mental illnesses. This indicates the importance of addressing stigma thoroughly when trying to tackle PPD.

Age, education level, income level, POG etc. did not significantly predict the perception of susceptibility. Not only having heard about PPD or knowing someone with PPD but even having a previous diagnosis of a psychiatric illness did not increase the odds of perceiving a susceptibility to a peripartum mental illness. This can be thought of as indicating the alien nature of a concept about a mental illness associated with pregnancy and motherhood in this community. To get the maximum benefits of PPD awareness programmes, it is important to bring out the theme that "anybody is susceptible to mental illness" during health education.

Strengths and Limitations

The study uses a vignette of peripartum depression. This approach had to be adopted to overcome the problem of lay people not being familiar with disease names especially when it comes to mental illnesses. Use of a vignette allows assessing how participants construct meaning for common symptoms of a particular disease, i.e.; whether they are able to identify a possibility of a disease when its symptoms are noticed. Efforts were undertaken to maintain the internal validity of the vignette. Even though a structured introduction was used during data collection to overcome courtesy bias an underestimation of stigma could have still occurred due to that.

Conclusion

Sri Lankan pregnant women generally enjoy high social capital and privileges, and are offered a maternal care package that includes health education, screening and care provision for mental health issues. Despite a significant level of stigma persists, possibly hindering the health seeking for PPD and perceived threat of having symptoms of PPD and suicidal thoughts is low. Ending preventable maternal deaths in this population requires more social interventions to change the current unfavorable community perceptions and stigma.

Abbreviations

PPD
Peripartum Depression
MOH
Medical Officer of Health

Declarations

Ethics approval

Ethical approval for the entire research project was obtained from the Ethics Review Committee, Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka (Reference No : ERC2018/19). Informed written consent was obtained from all participants.

Consent for publication

Not applicable

Availability of data and material

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

GSA designed the study, conducted field work, database preparation, analyzed and interpreted data and prepared the draft of manuscript. SBA supervised the study designing, data collection and data handling, analysis and interpretation of data and involved in manuscript writing. TCA involved in study design and data interpretation.

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Figures

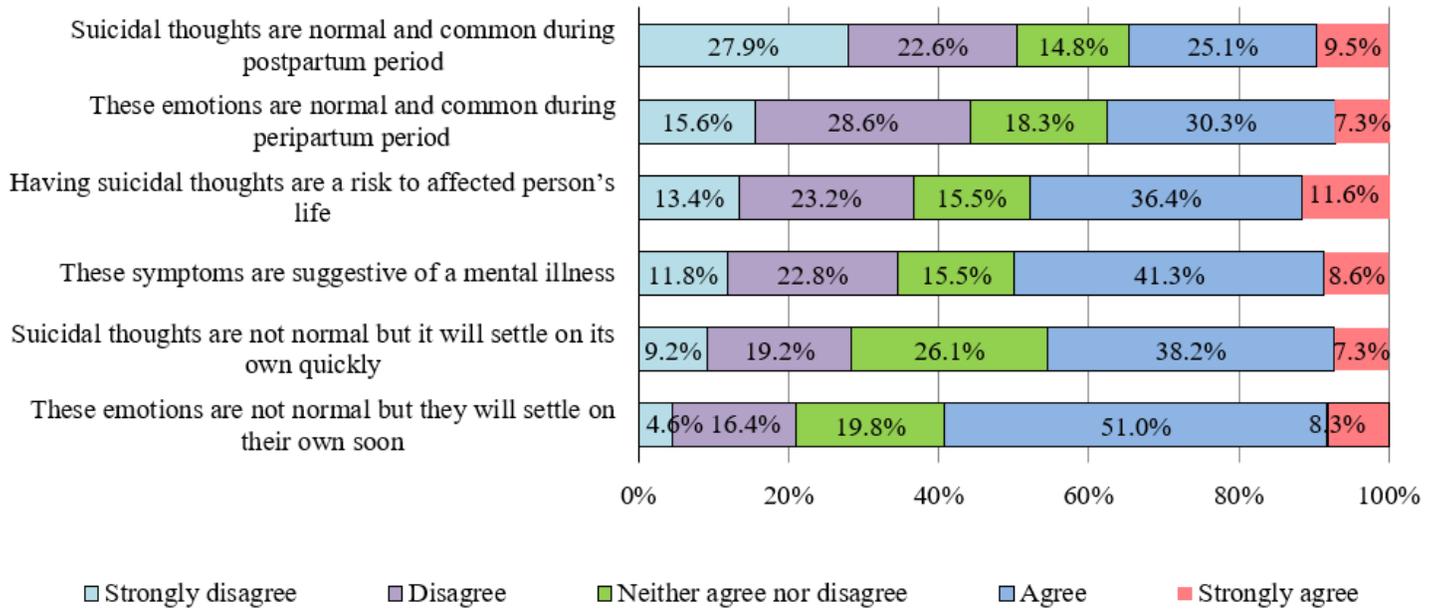
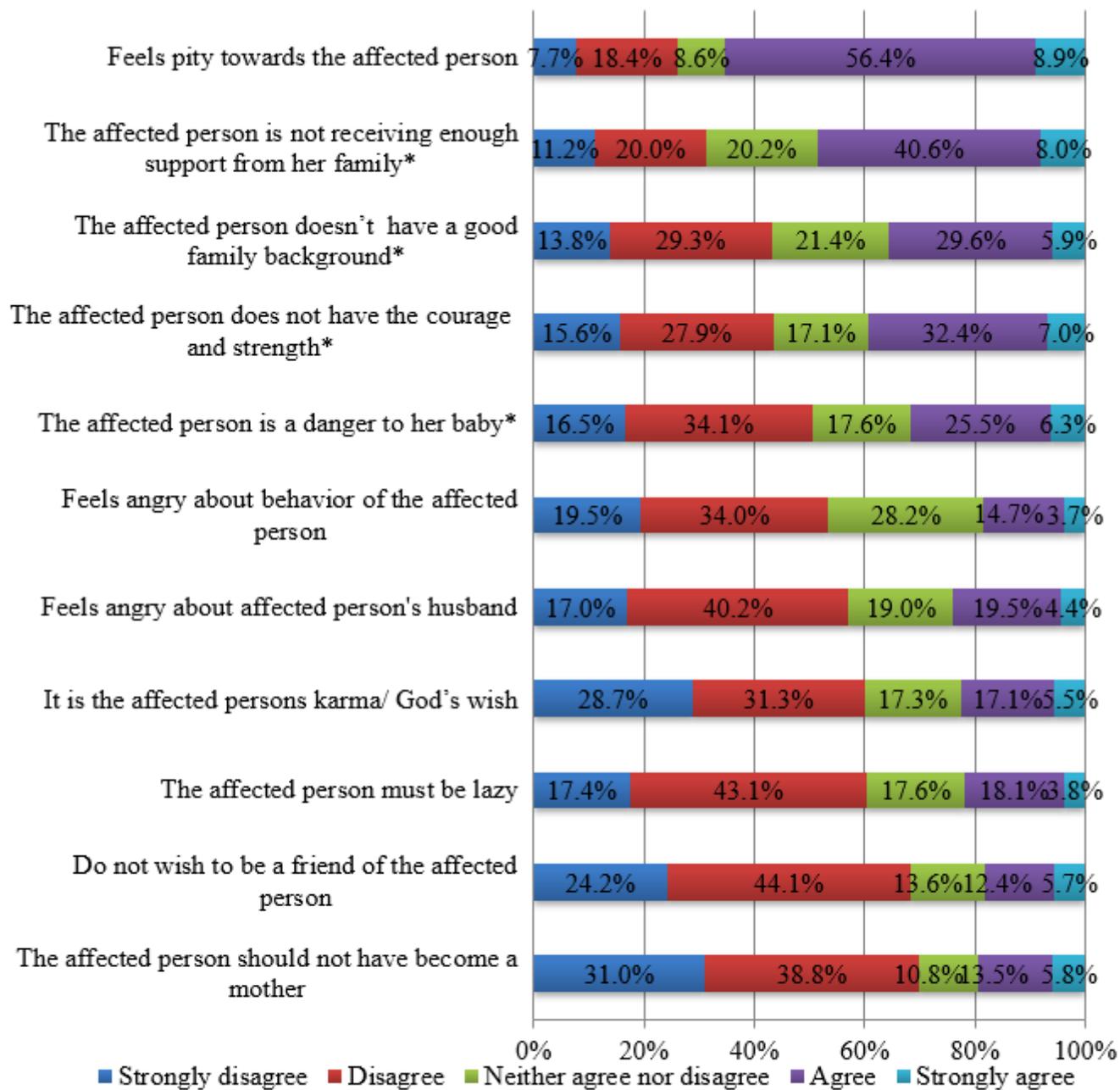


Figure 1

Distribution of agreement to statements stating the perception about symptoms of peripartum depression and suicidal ideation



*Statements classified as describing nonjudgmental stigma according to factor analysis

Figure 2

Distribution of agreement to statements stating stigma about peripartum depression *Statements classified as describing nonjudgmental stigma according to factor analysis