POLICY BRIEF

Screening for perinatal depression: should we do it?

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SCREENING FOR PERINATAL DEPRESSION: SHOULD WE DO IT?

Key words:

- Perinatal depression
- Screening
- Primary care clinics

This policy brief aims to develop to support evidence-informed policy-making

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Key messages

What's the problem?

- The overarching problem is that there is a lack of structured program to detect mental health problem, in particular perinatal depression. The problem can be understood at several levels:
  1) worrying prevalence, nature and burden of perinatal depression among women; high prevalence of postnatal depression in Malaysia (12.7% from community-based nation-wide survey and 20.7% from local clinic-based study)
  2) serious devastating impact of perinatal depression to women, children and family
  3) grand challenges related to access to perinatal mental health service
  4) untreated women with depression suffer in silence for being unrecognised, undetected and undertreated - lack of structured system to detect and manage the problem

What do we know (from systematic reviews) about three viable options to address the problem?

- Option 1: Universal screening for postnatal depression at primary care clinics
  - This option involves identification of appropriate screening tool (validated and feasible), suitable timing and frequency and proper referral system for management. Possible screening tools to be considered are Edinburgh Postnatal Depression Scale (EPDS), Beck Depression Inventory (BDI), Patient Health Questionnaire-2 (PHQ-2), Patient Health Questionnaire-9 (PHQ-9), Whooley Questionnaire and Montgomery-Asberg Depression Rating Scale (MADRS). Edinburgh Postnatal Depression Scale (EPDS) was the recommended tool from various reviews, but UK and Scotland suggested PHQ-2 as the first line of screening before EPDS. Timing for screening based on available evidence may range from at least once during antenatal to once or twice within 12 months postpartum.
  - screening is acceptable, but non-conclusive evidence from review on cost-effectiveness of universal screening.

- Option 2: Establish a portal for screening and self-help
  - This option involves establishing an online screening system on an established portal with link to various web-sites. The system is to be easy to administer with automated scoring system and link to appropriate recommendations for self-help or referral for management based on the score.
  - the online screening will be able to reach a larger percentage of women in need than clinic-based programs, can minimize treatment barriers (e.g. travel, cost, tiredness, child care, lack of motivation) and encourage a more interactive way of dealing with depression among women and reduce feelings of stigma. Users can set their own pace

and can access information at any time ("time-effectiveness"). Web-based screening is anonymous which is preferred by patients.

What implementation considerations need to be kept in mind?

Screening for perinatal depression should be considered to be implemented at the government primary care facilities at one-month postpartum. Two-stage screening is recommended with universal screening using locally validated self-administered PHQ-2 followed by EPDS for those with positive response. Online screening at Ministry of Health portal with listed available helps should also be considered to compliment the service.

• Potential barriers to implementing these options include:

- time constraints at clinic, social stigma, cost implication for non-citizen and shortage of mental health professionals
- challenge in attracting women to use on-line screening and low internet penetration among rural area

However, these and other potential barriers (and strategies to address them) can be identified and appropriate strategies can be planned to address them.

Executive summary

The problem

The overarching problem being addressed here is a huge one considering maternal mental health plays a critical role in family's overall wellbeing which is the building block of a healthy nation:

1. Worrying prevalence, nature and burden of perinatal depression among women

Focusing on women in reproductive age, perinatal depression is a highly prevalent serious depressive mood disorder that affects mothers during pregnancy and the year following childbirth. Globally, 1 in 10 women suffer from perinatal depression. In Malaysia, National Health and Morbidity Survey 2016 found 12.7% may suffer from postnatal depression at 6-16 weeks postpartum. Other local study reported prevalence of 20.7% at primary care setting. Depression is the leading cause of the global burden of disease responsible for reduced productivity, years living with disability and increased health costs and great impact to families and children. Globally, in women of child-bearing age, depression accounts for the largest proportion of the burden associated with mental or neurological disorders. In Malaysia, the Second Burden of Disease 2012 study found that among women 15-29 years, unipolar depressive disorders were the leading cause of disability-adjusted life year (DALY) and the third leading cause of YLD. Among women 30-59 years, unipolar depressive disorders were the second leading cause of DALY and the third leading cause of YALD.

2. Serious devastating impact of perinatal depression to women, children and family

Maternal depression during pregnancy is associated with obstetrics and neonatal consequences. Children of depressed mothers are at risk for health, developmental, and behavioural problems, contributing to long term inter-generational shortcomings that accumulates throughout the life span. Severe perinatal depression and suicide are among the leading causes of maternal death. Contemporary women are vulnerable**;** women in developing countries like Malaysia are facing many challenges putting them at a high risk of depression. A nationwide clinic-based study found that postnatal depression was associated with inadequate practical or emotional support from the family; a poor relationship with a partner (including intimate partner violence); psychosocial adversity, poor living conditions and lack of employment; and coincidental adverse life events, such as financial difficulties or unwanted pregnancy.

3. Grand challenges related to access to perinatal mental health care

In Malaysia 95% mothers have adequate antenatal care illustrating a good perinatal health care according to WHO standard. However, the absence of perinatal mental health component creates a big gap in caring for women's whole wellbeing. Integration of mental health into primary health care platforms, the only feasible way to address the treatment gaps for mental disorders, is not yet established. Given the magnitude of perinatal mental

illnesses such as depression and its debilitating consequences; not providing accessible care will deprive mothers of their basic right to health and prevent children from achieving their full developmental potential.

4. ***Untreated women with depression suffer in silence for being unrecognised, undetected and undertreated***

Although perinatal depression is a treatable mental illness, it is under-detected, under-diagnosed and undertreated. Mothers lack of proactive disclosure may be due to lack of knowledge, culture and conceptualization the maternal role, stigma, embarrassment and fear of losing one's baby, insufficient time and the inconvenience of attending appointments. They continue to suffer in silence despite effective screening and treatment being available.

Two options for addressing the problem

Of the many potential options to detect perinatal depression, two exemplars are profiled.

Option 1: Universal screening for perinatal depression at primary care clinics

Elements of this option might include: 1) taking stock of the current state of evidence on the universal screening of postnatal/perinatal depression at primary care clinics 2) taking stock of the current state of recommendations by worldwide recognized organisation; 3) prioritisation of suitable screening tool; 4) identification of suitable timing for screening;

Systematic reviews supported screening of perinatal depression. Besides the presence of various screening tools, even in Bahasa Melayu, majority (twenty-eight out of twenty-nine publications) reported PND screening to be acceptable to most participants, with the majority of respondents strongly agreed or agreed to that all women should be screened in the prenatal (63.0%) and postpartum periods (72.7%). In the majority of studies, the EPDS was acceptable to women and healthcare professionals when women were forewarned of the process. However, the potential effectiveness of screening for postpartum depression is related to the availability of systems to ensure adequate follow-up of women with positive results. Hence, primary care must ensure that the system for management, referrals and counter referrals are in place or enhanced. The use of formal identification strategies however, did not appear to represent value for money.

Option 2: Establish a portal for screening and self-help

Elements of this option might include: 1) identification of the self-administered locally validated screening tool; 2) identification of the information on the perinatal depression to be disseminate in the portal; 3) taking stock of existing resources, self-help tips, help-lines and

list of health facilities for further management; and 4) designing and maintaining an interactive web site with all identified information.
We did not identify any systematic reviews addressing the effectiveness of online screening for perinatal depression. We managed to identify several original articles describing this option. A portal
for online-screening, if optimally designed, should be able to reach a large percentage of women, can minimise treatment barriers; travel, cost, tiredness, child care, lack of motivation; reduce social stigma and maintain confidentiality. There is a possible ethical and legal challenges in how to link the women, particularly those with probable suicidal behaviours to diagnostic and treatment services. We are unable to find study on cost-effectiveness of this approach. It is recommended to conduct a proper systematic review for this option.

Implementation consideration

In general, majority of women received perinatal care at the government health facilities. One third of the health clinics have Family Medicine Specialists, while the remaining received regular visits. Implementation of screening for perinatal depression at these clinics will not require any additional manual/document as there are already well-established and readily available referral system with a guideline to manage positive cases. No direct additional cost is expected as the screening will not involve any laboratory investigation. A portal for online screening is currently available on MOH Website with a possibility of adding self-help and list of facilities for referral. Combination of both approaches will ensure reaching maximum coverage of target population.

Based on various factors such as the cost, locally validated tool and feasibility for usage at the busy primary care facilities in Malaysia, the screening is suggested for two levels; universal screening using locally validated and free self-administered tool namely PHQ-2, with only two questions, followed by second phase for those found as positive using PHQ-2 using another locally validated and internationally accepted tool; Edinburgh Postnatal Depression Scale (EPDS) with 10 questions.

The screening is recommended to be done at one-month postpartum during clinic health visit for postpartum check and immunisation for the infant. The timing is appropriate due to the time period of symptoms based on PHQ-2; "symptoms in the past two weeks", which can fulfil the criteria for post-partum depression with peripartum onset based on DSM-5. This timing will be more feasible for the healthcare system as the scheduled visit already in the system.

Possible challenges and barriers to this screening can be categorised into target population and healthcare system. Some of challenges from the target population for the implementation of screening for perinatal depression at the primary care clinics are time constraint, social stigma, and cost implication for non-citizen. Barriers that may be faced from

the healthcare system include insufficient training/knowledge, inadequate time for consultation, fear of legal repercussions, lack of referral network from primary care to mental health services and shortage of mental health professionals. For the online screening, challenges include poor coverage due to low internet penetration in rural Malaysia, poor response to the online system and lack of initiative to seek the offered options for further management and a necessity for a dedicated team to monitor the portal regularly to support the online help.

Policy brief

Background to the policy brief
This policy brief highlights the lack of policy or guideline in detecting postpartum depression in Malaysia, two options for addressing the problem and the implementation consideration. This brief summarised evidences from various systematic reviews and single studies done locally.
The two options identified were not mutually exclusive and can be implemented simultaneously.
This policy brief was formulated to inform the policy makers on the postpartum screening at primary care clinics.

Four steps involved in the preparation of this brief:

1. Identification of the problem and the three options for addressing it.
2. Searching for research evidence, selecting, and summarized the relevant research evidence about the problem, options and implementation consideration
3. Drafting the policy brief in a presentable format with concise evidence
4. Finalising the brief based on input from expert reviewers

The problem
The overarching problem to be addressed here is a huge one: perinatal depression is a highly prevalent serious mood disorder that affects mothers during pregnancy and the years following childbirth, and mental health of a mother contributes critically in a family's overall wellbeing which is the building block of a healthy nation.

The problem can be understood at several levels: 1) worrying prevalence, nature and burden of perinatal depression among women; 2) serious devastating impact of perinatal depression to women, children and family; 3) untreated women with depression suffer in silence for being unrecognized, undetected and undertreated; and 4) grand challenges related to access to perinatal mental health services

1) Worrying prevalence, nature and burden of perinatal depression among women

Prevalence of Perinatal Depression is A Challenge
Perinatal depression is a major depressive disorder (MDD) with peri-partum onset, when symptoms onset occurs during pregnancy or in the four weeks following delivery (1). Nevertheless, in clinical practice and in many research studies, time frames that range up to one year are used to define the postpartum period, and self-report measures are used to identify perinatal depression (2).

Perinatal depression is highly prevalent; 11.9% of women which means that around 1 in 10 women suffer from perinatal depression worldwide, as shown by pooled prevalence of 101 prevalence studies from low, middle- and high-income countries in in a recent systematic review and meta-analysis (3).

In Malaysia, prevalence of perinatal depression (antenatal and postnatal) using validated Malay version of Edinburgh Postnatal Depression Scale (EPDS) are as below:

- 10.3% to 13.8% of women attending health clinics had antenatal depression
- 3.9% to 21.08% women attending health clinics had postnatal depression
- 31.7% of women in postnatal ward had postnatal depression
- Two large nation-wide surveys showed prevalence of postnatal depression at 6-16 weeks postpartum as 4.5% in a government health clinic-based survey and 12.7% in a community-based National Health and Morbidity Survey.

Local prevalence is summarised in Table 1

Table 1: Local Prevalence of Perinatal Depression (Antenatal and Postnatal Depression)

No.	Authors, Year	Study design	Study sample	Study setting	Tool	Findings
1	Ahmad et al., 2018	Cross-sectional study	Postnatal mothers at 6-16 weeks recruited from the government primary health care clinics throughout Malaysia (n=5727)	Randomly selected government primary health care clinics throughout Malaysia	Validated Malay version of the Edinburgh Postnatal Depression Scale (EPDS)	The prevalence of postnatal depression at 6-16 weeks postpartum was 4.5%.
2	Institute for Public Health (IPH), NHMS 2016	Cross-sectional study	Postnatal women at 6 months after delivery	Community setting in Malaysia	Validated Malay version of the Edinburgh Postnatal Depression Scale (EPDS)	The prevalence of postpartum depression was 12.7%
3	Nagandla et al., 2016,	Cross-sectional study	Pregnant women at 16-22 weeks	Two primary health	Depression anxiety and	The prevalence of

			and 34-36 weeks (n=288)	clinics in the state of Seremban, Malaysia	stress scale (DASS-21)	moderate depression was 3.1% (n=9).
4	Mohamad Yusuff et al., 2015a	Cohort study	Pregnant women at 36-38 weeks (n=2072)	Five maternal and child health clinics in Kota Kinabalu and Penampang Districts of Sabah, Malaysia	Validated Malay version of the Edinburgh Postnatal Depression Scale (EPDS)	The prevalence of antenatal depression was 13.8%.
5	Mohamad Yusuff et al., 2015b	Prospective Cohort study	Pregnant women at 36-38 weeks (n=2072)	Five maternal and child health clinics in Kota Kinabalu and Penampang Districts of Sabah, Malaysia	Validated Malay version of the Edinburgh Postnatal Depression Scale (EPDS)	The prevalence of postnatal depression was 7.1% at 1 month (n=1362), 6.9% at 3 months (n=1153) and 7.6% at 6 months postpartum (n=979).
6.	Abdul Kadir et al., 2006	Cross-sectional study	Pregnant women at 36-42 weeks period of amenorrhoea (n=421)	Four maternal and child health clinics in District of Kota Bharu, Kelantan, Malaysia	Validated Malay version of the Edinburgh Postnatal Depression Scale (EPDS)	The prevalence of postnatal depression at 4-6 weeks postpartu

						m was 20.7%.
7.	Fadzil et al., 2013	Cross-sectional study	Pregnant women at all stages of pregnancy aged 18 years and above (n=175)	Antenatal clinic at Hospital Tuanku Bainum, Ipoh, Malaysia	Validated Malay version of the Hospital Anxiety and Depression Scale (HADS)	The proportion with abnormal depression symptoms was 10.3%
8.	Mohd Arifin et al., 2014	Cross-sectional study	All postnatal women (n=347)	Postnatal wards in University Malaya Medical Centre	Validated Malay version of the Edinburgh Postnatal Depression Scale (EPDS)	The percentage of postnatal depression was 31.7% (n=110).
9.	Zainal et al., 2012	Cross-sectional study	Postpartum mothers attending their 6-8 weeks postnatal care appointment (n=411)	Postnatal Clinic of the University Malaya Medical Centre, Kuala Lumpur, Malaysia	Mini International Neuropsychiatric Interview (MINI)	The prevalence of postpartum depression was 6.8% (n=28).
10.	Wan Mahmud et al., 2005	Cross-sectional study	Women at 4-12 weeks postpartum (n=185)	Selected health centers in a rural area in Kedah, North West of Peninsular Malaysia	Validated Malay version of the Edinburgh Postnatal Depression Scale (EPDS) and Beck Depression Inventory II (BDI-II)	The prevalence of postpartum depression was 21.08%.
11.	Wan Mahmud et al., 2002	Cross-sectional study	Postpartum women (n=174)	Beris Kubor Besar Health Center,	Malay version of the General Health	The incidence of postpartu

				Kelantan, Malaysia	Questionnaire (GHQ-30)	m depression was 9.8% (n=14: mild depressive episodes and n=3: moderate depressive episodes)
12.	Kit et al., 1997	Cross-sectional study	All women who attended the postnatal clinic 6 weeks after delivery (n=154)	Seremban Maternal and Child Health Clinic, Negeri Sembilan, Malaysia	Validated Malay version of the Edinburgh Postnatal Depression Scale (EPDS)	Overall incidence for postnatal depression was 3.9%

Burden of Perinatal Depression Among Women Is Huge and Costly

MDD is a major cause of the global burden of disease responsible for reduced productivity, years living with disability and increased health costs and great impact to families and children. The Global Burden of Disease (GBD) 2015 study found MDD to be the third leading cause of years lived with disability (YLDs) globally and projected to be the leading cause in 2020 (4).

Globally, in women of child-bearing age, depression accounts for the largest proportion of the burden associated with mental or neurological disorders (5). In Malaysia, the Second Burden of Disease 2012 study found that among women 15-29 years, unipolar depressive disorders were the **leading** cause of disability-adjusted life year (DALY) and the third leading cause of YLD. Among women 30-59 years, unipolar depressive disorders were the second leading cause of DALY and the third leading cause of YALD (6).

Moreover, risk factors for perinatal depression predict continued challenges ahead as contemporary women are vulnerable. Besides biological factors, the strongest psychosocial predictors found by systematic review were as below:

- severe life events
- chronic strain – work stress, financial stress and psychosocial stress
- relationship quality
- support from partner and mother (7)

Women in developing countries like Malaysia are facing many such challenges putting them at a high risk of depression. A nationwide clinic-based study found that postnatal depression was associated with inadequate practical or emotional support from the family and a poor relationship with a partner particularly intimate partner violence (8).

Cost implication related to perinatal depression is significant. Studies in other countries illustrated this.

- With 700,000 women giving birth in the UK every year (9) and about 13% of these women will subsequently experience postnatal depression (10), these data suggest that the national economic burden of the condition to the public services mounts to approximately £35.7 million per annum (sensitivity analysis range £34.4–£43.3 million).

- In a study in UK, generated mean cost differential involving health and social care of £392.10 between women with and without post-natal depression in between delivery and 18 months postpartum (11).

- In another study done in London, for each child exposed to perinatal depression, public sector costs exceeded £3030/year, costs due to reduced earnings were £1400/year and health-related quality of life loss was valued at £3760/year (12).

2) Serious devastating impact of perinatal depression to women, children and family

Mother's depression is an issue that affects an entire family. Untreated perinatal depression is associated with serious short- and long-term adverse consequences to the mother, baby and the family.

Effects to pregnant women

A critical review of 35 studies that addressed the influence of symptoms of depressed mood and anxiety on pregnancy complications found women with depressive symptoms had more obstetric complications, reported more physical symptoms like nausea, visit their obstetrician more often, and have more disability days during their pregnancy than healthy women (13).

Effects to the fetus

From systematic reviews and meta-analysis, depression during pregnancy may have devastating effects on developing fetus and newborn (14,15,16).

Detrimental effects to developing fetus include:

- fetal hyperactivity and irregular fetal heart rate (15)

Detrimental effects to the newborn include:

- preterm birth (14,16)
- low birth weight (14)
- increased cortisol and norepinephrine levels, decreased dopamine levels, altered EEG patterns, reduced vagal tone, stress/depressive-like behaviours; increased rates of premature deaths and increased neonatal intensive care unit admission (15)
- decreased breastfeeding initiation (16)

Effects on Parenting, Mother-child Interaction and Attachment

There were marked differences between depressed and well mothers in the pattern of their interaction with their infants. Generally depressed mothers are having difficulties interacting with their children (17).

Mothers with depression experience many challenges and difficulties. Maternal depression is significantly associated with:

- more hostile and negative parenting
- more withdrawn, disengaged or uninvolved
- less positive parenting (warmth and affection);
- lack eye contact and physical touching

These patterns of parenting have been found in depressed mothers of infants and young children as well as in depressed mothers of school-age children and adolescents (18). Infants of depressed mothers have high level of distress, increased infant crying and may avoid social interaction.

Two meta-analyses have shown overall reduced likelihood of secure attachment in children of depressed mothers, in small effect (19,20). More recent systematic review and meta-analysis showed results that suggested maternal depressive symptoms may confer risk for disorganized/controlling attachment during the preschool period (21).

Effects on Children's Biological, Physical and Psychological Development

Children of depressed mothers are at risk for health, developmental, and behavioural problems, contributing to long term inter-generational shortcomings that accumulates throughout the life span.

A literature review found that depression in parents is associated with adverse children's conditions:

- poorer physical health and well-being,
- high utilization of a variety of acute health care services for infant.
- visits for stress-related health conditions and increased health care utilization for older children.
- adverse health outcomes of accidents
- increased childhood asthma

- increased child maltreatment (abuse and neglect)
- increased adolescent tobacco and substance use.
- children's early signs of (or vulnerabilities to) more "difficult" temperament;
- affective functioning (more negative affect, more dysregulated aggression and heightened emotionality,
- more dysphoric and less happy affect, particularly for girls;
- lower cognitive/intellectual/academic performance,
- cognitive vulnerabilities to depression (more self-blame, more negative attributional style, lower self-worth);
- poorer interpersonal functioning;
- abnormalities in psychobiological systems, including poorer functioning stress response systems (neuroendocrine and autonomic) and cortical activity.
- behaviour problems and psychopathology in children, including higher rates of depression, earlier age of onset, longer duration, greater functional impairment, higher likelihood of recurrence, higher rates of anxiety, and higher rates and levels of severity of internalizing and externalising symptoms and disorders in children and adolescents (18)

A recent systematic review found that impact of depression towards children include biological and psychosocial consequences:

- increased salivary cortisol levels,
- central adiposity.
- internalising and externalising problems
- a slight increase in criminal behaviours (15)

Effects on Marital Relationship

Depression and marital distress appear to have bidirectional relationship. Living with a depressed spouse can be burdensome and causing lots of marital distress (22).

Suicide and Maternal Death

Suicide in pregnant and postnatal women is among the leading causes of maternal death, with more evidence building up in developed countries.

- A study in US found that self-harm (accidental overdose or suicide) was the leading cause of maternal death in Colorado, with the pregnancy-associated mortality ratio from suicide was 4.6 per 100,000 live births (23).
- Data from the US National Violent Death Reporting System (NVDRS) indicated that pregnancy-associated homicide and suicide are important contributors to maternal mortality, with 2.0 and 2.9 deaths per 100,000 live births, respectively (24).

- In Japan, data from 23 wards of Tokyo found that the maternal suicide rate was very high at 8.7 per 100,000 births compared to maternal suicide rates in Sweden and the United Kingdom (25).
- Perinatal depression and other mental disorders are associated with a higher risk of suicidal ideation, suicidal attempt, or suicide (26).
- Women with severe postpartum psychiatric disorders had increased mortality rate ratios (MRRs) compared with mothers without psychiatric diagnoses (27).
- A UK study by Khalifeh et al (28) reported that suicides in the perinatal period were more likely to occur in those with a depression diagnosis and no active treatment at the time of death among women in contact with UK psychiatric services.
- Perinatal depression not only contributes to maternal death, but also known to be associated with adverse effects on infant and child health. Previous studies in Taiwan and rural Ghana reported that probable postnatal depression was associated with increased risk of infant morbidity and mortality (29,30).

3) Untreated women with depression suffer in silence for being unrecognized, undetected and undertreated

Although perinatal depression is a treatable mental illness, it is under-detected, under-diagnosed and undertreated. Evidence from a qualitative systematic review suggest that women did not proactively seek help, and there are barriers involved from both maternal and health professional factors (31).

Common maternal help-seeking barrier were:

- inability to open up their feelings,
- inability to recognize the symptoms of depression
- lack of knowledge about postpartum depression
- believing and acceptance of myths
- unaware of treatment possibilities.
- culture and conceptualization the maternal role,
- stigma, embarrassment
- fear of losing one's baby

Common Family and friends help seeking barriers

- reluctance to respond to the mothers' emotional and practical needs
- active discouragement of women from obtaining help, since it is unacceptable to admit to depressive symptoms or discuss such difficulties external to the family context

Significant health service barriers identified

- insufficient knowledge of about postpartum depression
- tendency of health professionals to normalize depressive symptoms and to dismiss them as self-limiting
- insufficient time during consultation and tendency to prescribe medications rather than providing counselling (31)

4) Grand challenges related to access to perinatal mental health services

In Malaysia 95% mothers have adequate antenatal care illustrating a good perinatal health care according to WHO standard (32). However, the absence of perinatal mental health component in our national perinatal care program creates a big gap in caring for women's whole wellbeing.

This is a worldwide concern, as mental health care remains **a** grand challenge by its absence in large scale global maternal and child health (MCH) programs (33). Over the last decade, there are strong calls from number of influential organizations towards the integration n of health into large scale public health program (34). Integration of perinatal mental health into primary health care platforms is the only feasible way to address the treatment gaps for mental disorders (33).

The Millennium Development Goals set by the United Nations outlined three out of the eight goals refer specifically to women and children. Addressing mental health concerns such as maternal depression could play an important role in achieving these goals (35).

Given the high prevalence of perinatal depression with its devastating effects; and the barriers to help-seeking causing underdiagnoses; not providing accessible care will deprive mothers of their basic right to health and prevent children from achieving their full developmental potential.

At present, mental health issues may be missed, and even if they are detected they may be undertreated. Although effective treatments exist for most common mental health problems, few patients have adequate access to such treatments and to mental health specialists especially in low- and middle-income countries (34). This is the case in Malaysia, where the ratio of psychiatrists is 1.27 per 100,000 population in 2018 less than what is recommended by WHO which is one psychiatrist for every 10, 000 population (36).

Therefore, it is recommendable that the limited number of mental health specialists are mobilized to help enhance the capacity of primary care via task-sharing to address these common mental health problems. Integration of mental health care into a larger platform of healthcare, in this context perinatal health care, will lead to improvement of access to mental health care; improvement of patient or women centered care as well as avoiding

fragmentation of health services; reducing stigma; optimizing both mental health and physical health outcomes; and overall health system strengthening (34).

Without the integration and capacity building in the primary care, women with depression remains unrecognized. If diagnosed, those with mild to moderate perinatal mental illness will be referred for treatment in main-stream mental health services when this option is not convenient, less attractive and may be stigmatizing for women compared to when treatment can be accessed in the primary care.

Two options for addressing the problem

Option 1: Screening at primary health care facilities

Screening is the most widely used method for early detection and is defined as the positive identification of unrecognized disease or defect through the application of tests, examinations, or other procedures that can be rapidly applied (37).

Based on diverse experts including the Joint World Health Organization (WHO)/International Agency for Research on Cancer (IARC) screening program implementation criteria, screening for postnatal depression are justifiable based on various factors:

1. Disease Issues; postnatal depression is recognised as a public health problem. The expected high incidence of the problem makes it an ideal opportunity for large-scale screening program. The progression of postnatal depression can be halted by early detection and management, with the availability of effective treatment options.

2. Screening Test Issues; the available screening tests with good sensitivity, specificity, and predictive value, which are safe, convenient, and acceptable to the target population and cost-effective, easy to interpret, and readily incorporated into practice, and accessible to the target population.

3. Health System Issues; targeted to a clearly defined population, cost-effective, and reach those who will benefit the most, with appropriate referral and preventive/treatment options that are accessible and acceptable with continuous monitoring and evaluation.

In Malaysia, the medical care services provided by the public facilities comprise of three levels: primary, secondary, and tertiary care through a wide network of health clinics and hospitals. Primary healthcare services are the first point of contact, whereby, services in public facilities comprise of outpatient department, maternal child healthcare, dental services, school health services and support services such as clinical and imaging facilities, pharmacy and registration. It has an extensive network of health clinics, maternal and child health clinics, klinik desa (serving rural populations), Community clinics (KKom- serving mainly urban populations), and mobile clinics (serving remote populations).

Table 2: Summary of key findings from systematic review relevant to option 1

Category of finding	Summary of key findings
Benefits	• **Screening is acceptable** - Twenty-eight out of twenty-nine publications reported PND screening to be acceptable to most participants (38). - The majority of respondents strongly agreed/agreed to that all women should be screened in the prenatal (63.0%) and postpartum periods (72.7%) (39). - In the majority of studies, the EPDS was acceptable to women and healthcare professionals when women were forewarned of the process (40,41). • **Presence of screening tools (validated & not validated)** - The PHQ can be used as an initial first step assessment in primary care, a two-step procedure, using PHQ-2 followed by PHQ-9. This procedure has good acceptability (42). - The Malay version of the PHQ-9 was found to have good internal variability (43). • **Reduction of Risk of depression** - There were between 18% to 59% relative reductions with screening programs, or 2.1% to 9.1% absolute reductions, in the risk of depression at follow-up (3-5 months) after participation in programs involving depression screening, with or without additional treatment components, compared with usual care (44).
Potential harm / Challenges / Barriers	• **Screening is not diagnostic** - Neither the PHQ-2 nor the PHQ-9 can be used to confirm a clinical diagnosis (case finding) (42). - Patients who screened positive should be further evaluated with other diagnostic instruments, or direct interview to determine whether they meet criteria for a depressive disorder (43). - The value of a screening program will depend on the resources available locally and the ability of the woman and her primary care team to access these resources (43).

	- Screening creates an expectation of care and thus it could be considered unethical to identify cases of depression if support services are under-resourced and not readily available (43). - The potential effectiveness of screening for postpartum depression is related to the availability of systems to ensure adequate follow-up of women with positive results. Because the balance of benefits and harms at both the individual level and health system level, is highly dependent on characteristics i.e. sensitivity, specificity, timing and frequency (44).
Cost effectiveness	• Formal identification methods, using their current guidelines, for postnatal depression do not seem to represent value for money for the NHS. The major determinant of cost effectiveness seems to be the potential additional costs of managing women incorrectly diagnosed as depressed (45). • It is difficult to disentangle the effects of the screening component alone from interventions, linked to a positive screen as some of the studies included enhancements of care and/or an intervention (46). • The evidence surrounding the clinical and cost effectiveness of screening with the EPDS was lacking (47). • The use of formal identification strategies did not appear to represent value for money (48).
Uncertainty regarding benefits and potential harms (so monitoring and evaluation could be warranted if the option were pursued)	• The cut-off value for the certain depression screening tool is critical, as in a screening program, a lower cut-off point may be needed to ensure sufficiently high sensitivity. However, in situations in which the prevalence of depression is low, this may result in an unacceptably high false-positive rate because of the associated modest specificity (49)

Key elements of the policy option if tried elsewhere	• Not addressed by the identified systematic review
Stakeholders' views and experience	• **Participants accept PND screening** - Twenty-eight out of twenty-nine publications reported PND screening to be acceptable to most participants (38). - The majority of respondents strongly agreed/agreed to that all women should be screened in the prenatal (63.0%) and postpartum periods (72.7%) (50). - There was a need for health services to better prepare women for screening prior to and after birth. It is crucial that health professionals are educationally prepared for this work and receive ongoing training and support in order to always deliver care that is empathetic and sensitive to women who are disclosing personal information (41). - Collective experience during the consensus meeting noted that very few clinical harms (e.g: misdiagnosis, labeling and stigma) associated with depression screening in perinatal women. The impact of these harms can be minimized by systematically following up all positive screens (e.g:, repeat screen and, if necessary, conduct a diagnostic interview). Using the ethical decision-making framework, the benefits of universal PND screening were considered to outweigh the harms. The potential harms attributable to not universally screening for PND were recognized as a significant concern (51).

Table 3: Recommendation by organisation

	Organization	**Recommendation**
1	U.S. Preventive Services Task Force (USPSTF)	Screening of perinatal women for depression are recommended when staff-assisted depression care supports are in place to ensure correct diagnosis, effective treatment and follow up. Direct depression care such as care support or coordination, case management, or mental health treatment should be done by staff-assisted depression care supports which consist of clinical staff. Grade B recommendation

	Organization	Recommendation
2	American Congress of Obstetricians and Gynecolo-gists Committee on Obstetric Practice (ACOG)	Summarize that inadequate evidence available to back universal screening and insufficient data to recommend how often screening should be done. ACOG suggests screening should be strongly considered due to the potential benefit to a woman and her family, and those with positive screens receive follow-up evaluation and proper treatment. Also recommends medical practices to refer identified cases of depression to a proper centre.
3	American Academy of Pediatrics Bright Futures	Encourages paediatricians to assist families as part of their role in serving health care to children. The Bright Futures Guidelines provide questions and anticipatory guidance that health care professionals can utilise to assess parental (maternal) well-being. Specific questions are provided to assess depressive symptoms and are tailored for use at the prenatal, new born, first week, one-month and two-month visits.
4	AAP/ACOG Guidelines for Perinatal Care	It recommends patients should be educated regarding psychosocial issues that may arise during pregnancy and postpartum period. Pregnant woman who experiences negative thoughts about her pregnancy should receive additional support from the health care team. All patients should be monitored for symptoms of severe postpartum depression and assisted with culturally appropriate treatment or referral to community resources. Specifically, the psychosocial status of the mother and new born should be subject to ongoing assessment after hospital discharge. Women with postpartum blues should be monitored for the onset of continuing or worsening symptoms because these women are at high risk for the onset of a more serious condition. The postpartum visit at approximately 4-6 weeks after delivery should include a review of symptoms for clinically significant depression to determine if intervention is needed.
5.	Perinatal Mental Health Project, Africa.	Suggests for routine mental health screening for mothers during history taking or booking procedure using a validated screening tool.

The table below summarizes available screening tools for perinatal depression. It is important to understand the accuracy of these screening tools when considering their utilization among pregnant and postpartum women.

Table 4: Selected screening tools for perinatal depression

Screening tools	Description	Sensitivity & Specificity	Test cut-off point	Cost
Edinburgh Postnatal Depression Scale (EPDS) (55,56)	• The most frequently explored screening instrument for postnatal depression (48) • Created specifically to identify patients at risk for perinatal depression • To assess symptoms of depression and anxiety • Self-administered by patient • Ten questions, takes 5-10 minutes to complete • Most widely used screening tool among pregnant and postpartum women • Locally validated questionnaire	Sensitivity 100% Specificity 98% (55) Sensitivity 72.7% Specificity 92.6% (56)	11/12 11.5	Free
Beck Depression Inventory (BDI) (57)	• Used to detect depressive symptoms • Self-administered by patient • 7 items • Takes less than 5 minutes to complete • Locally validated questionnaire	Sensitivity 100%, Specificity 98.1% (57)	9/10	Free

Center for Epidemiologic Study Depression Scale (CES-D) (58)	• Measures depressive feelings and behaviours over the past week • Completed by patient • 20 questions • Takes about 5 minutes to complete • Not locally validated	Sensitivity 47% Specificity 93% (58)	27	Free
Montgomery-Asberg Depression Rating Scale (MADRS) (59)	• Used in patients with major depressive disorder to measure the degree of severity of depressive symptoms and the change in symptom severity during treatment. • Administered by clinician • Ten-item checklist • Takes about 15 minutes to complete • Locally validated	sensitivity 78% specificity 86% (59)	4	Free
Patient Health Questionnaire-2 (PHQ-2) (60)	• Asks two simple questions about mood: 1) Over the past two weeks, have you ever felt down, depressed, or hopeless? 2) Over the past two weeks, have you felt little interest or pleasure in doing things? • Completed by patient or administered by clinician • Takes less than one minute to complete • Positive scores should be followed up with a more comprehensive screening tool • Endorsed by ACOG and USPSTF	Pooled Sensitivity 76%, Specificity 87% Pooled Sensitivity 91% Specificity 70% (60)	≥ 3 ≥ 2	Free

	• locally validated • In a screening situation, a lower cut-off point may be needed to ensure sufficiently high sensitivity (49)			
Patient Health Questionnaire-9 (PHQ-9) (43)	• Screens for depression and can be used to monitor symptom severity during treatment • Completed by patient • Nine-item questionnaire, takes about 5-10 minutes to complete and then can be quickly scored by staff or self-scored by patient • locally validated	Sensitivity of 87%, Specificity of 82% (43)	>9	Free
Postpartum Depression Screening Scale (PDSS) (61)	• Used to identify women at high-risk for postpartum depression • Completed by patient • 35-item questionnaire • Can be completed in 5-10 minutes • Not locally validated	Portuguese (brazil) Sensitivity of 89%, Specificity of 72%, Thai (Thailand) Sensitivity of 72% Specificity of 79% English (US) Sensitivity 94% Specificity 98% (60)	81 51 80	Cost to purchase complete kit (25 Auto-Score test forms and scoring manual)
RAND 3-Question Screen (26)	• 3-item adaptation of a 8-item depression screener • Completed by patient • Takes less than a minute to complete • Not locally validated	N/A	N/A	Free

Whooley Questionnaire (62)	• Face to face interview • 2 questions asking about low mood and loss of interest and pleasure • Symptoms duration of 1 month • Locally validated	Sensitivity 95% Specificity 65%. (54)	Yes to at least one question	Free

Source: National Institute for Health Care Management, Department of Health New York, 2010.

Table 5: Timing for Screening

Review/Organisation	**Timing**
Moraes GP, Lorenzo L, Pontes GA, Montenegro MC, Cantilino A. Screening and diagnosing postpartum depression: when and how? Trends Psychiatry Psychother. 2017;39(1):54-61.	A review on timing for postnatal depression screening found **three months post-partum** as the common period for diagnosis (61)
Angarath I. van der Zee-van den Berg, Magda M. Boere-Boonekamp, Maarten J. IJzerman, Riet M. E. Haasnoot-Smallegange, Sijmen A. Reijneveld. Screening for Postpartum Depression in Well-Baby Care Settings: A Systematic Review. Matern Child Health J (2017) 21:9–20	A systematic review found that screening in WellBabyCare setting leads to higher detection, referral and treatment and, when combined with enhanced care, to improvement in lowering depression scores (63)
Beyond Blue National Action Plan for Perinatal Mental Health 2008-2010: Full Report	Routine universal psychosocial assessment should be integrated into existing antenatal and postnatal care settings and should occur at least once in the antenatal period and at least once during the first 12 months postpartum (64)
Policy brief: Brown SJ, Woolhouse H. Maternal Health Study Policy Brief No. 1: Maternal depression. Murdoch Childrens' Research Institute, Melbourne 2014	Maternal Health Study show that the majority of women experiencing depression in the first 12 months postpartum first reported postpartum symptoms at 6 months or later (65)

National Centre for Health and Clinical Excellence. Antenatal and Postnatal Mental Health: Clinical Management and Service Guidance (CG 45). NICE, London, UK (2007).	NICE recommend that women are asked the Whooley questions at their first antenatal booking contact, as well as postnatally at 4–6 weeks and 3–4 months (66)
Scottish Intercollegiate Guideline Network. Guideline 60: Postnatal Depression and Puerperal Psychosis. SIGN, Edinburgh, UK (2002)	The Scottish Intercollegiate Guidelines Network (SIGN) guideline for the screening and management of postnatal depression recommends routine initial screening for depression at 6–8 weeks postpartum, with a second assessment at 3 months (67)
Management of perinatal mood disorders (Healthcare Improvement Scotland (HIS)2012, https://www.sign.ac.uk/assets/sign127_update.pdf)	Enquiry about depressive symptoms should be made, at minimum, on booking in and postnatally at four to six weeks and three to four months.(68)
Suebwongpat A, Standfield L, Campbell S, Norris S. Screening for Postnatal Depression Within the Well Child Tamariki Ora Framework. An Economic Analysis of Implementation of a Screening Programme. HSAC Report, Canterbury, New Zealand (2008).	In New Zealand, women are not formally screened for depression, although the Well Child Schedule currently recommends use of the EPDS at core child health contacts at 6 weeks, 3 months and 5 months (69)
American College of Obstetricians and Gynecologists https://www.acog.org/Clinical-Guidance-and-Publications	Full assessment of mood and emotional well-being (including screening for postpartum depression and anxiety with a validated instrument) during the comprehensive postpartum visit. If a patient is screened for depression and anxiety during pregnancy, additional screening should then occur during the comprehensive postpartum visit (70)
In search of best practice for postpartum depression screening: is once enough? –	Optimal timing or frequency of screening is not known resulting in varying recommendations by different authorities and providers. (71)

Table 1
Current guidelines for screening for postpartum depression by various authorities.

Date	Organization	Recommendation
2015	ACOG [4]	Screen at least once in the perinatal period
2013	APA [20]	No specific recommendations
2013	USPSTF [19]	Recommends screening but optimal interval unknown
2010	AAP [20]	Screening should be integrated into well-child care schedule
2010	AAFP [21]	Refer to USPSTF guidelines
2007	UKNIHCE [17]	Professionals should inquire about postpartum depression
2003	ACNM [22]	Universal screening, treatment and referral

ACOG—American Congress of Obstetricians and Gynecologists; APA—American Psychiatric Association; USPSTF—US Preventive Services Task Force; AAP—American Academy of Pediatrics; AAFP—American Academy of Family Physicians; ACNM—American College of Nurse Midwives; UKNIHCE—United Kingdom National Institute for Health and Clinical Experience.

Option 2: Develop and establish a web portal that provides users access to a number of services – knowledge about perinatal depression, online screening/ e-screening of perinatal depression, helpline or support links for perinatal depression

Table 6: Summary of key findings from systematic review relevant to option 2

Category of finding	Summary of key findings
Benefits	• Able to reach a larger percentage of women in need than clinic-based programs. • Able to track visit frequency and duration for each webpage, and to provide ongoing feedback. • Reductions in depressive symptoms via internet treatment which is more readily available and attractive. - can minimize treatment barriers (e.g. travel, cost, tiredness, child care, lack of motivation) • Encourage a more interactive way of dealing with depression among women and reduce feelings of stigma. • Users can set their own pace and can access information at any time (“time-effectiveness”). This “on demand” capability is of particular importance with postpartum women, for whom flexible access to web portal is a requirement given their childcare commitments and general lack of time. • Web-based screening is anonymous which is preferred by patients.
Potential harms	• Using the internet to identify women who are high risk for depression poses additional ethical and legal challenges in how to link those women to diagnostic and treatment services.

Cost and/or cost-effectiveness in relation to the status quo	• Future studies are needed to evaluate the cost-effectiveness of Web-based screening.
Uncertainty regarding benefits and potential harms (so monitoring and evaluation could be warranted if the option were pursued)	• Not addressed by the identified systematic review.
Key elements of the policy option if tried elsewhere	• Not addressed by the identified systematic review.
Stakeholders' view and experience	• Not addressed by the identified systematic review.

Implementation considerations

Majority of women in Malaysia received perinatal care at government health facilities. A total of 85.0% antenatal mothers received care at public health facilities, while 80.5% deliveries were at public health hospitals (72). As of December 2018, there are 439 Family Medicine Specialist (FMS), placed in 306 from 1001 clinics throughout Malaysia (73). The remaining clinics without FMS were visited regularly by FMS within the district.

Management of medical problems including mental health problems during perinatal period is already in placed at government health care facilities (74). Positive cases detected during the screening will be channelled through this well-established referral system. No additional cause is expected with the additional of this screening activity.

Online screening for postnatal depression can also be considered by Ministry of Health and other non-governmental agencies. Currently, application for health risk assessment including screening for mental health using DASS21 is available on MOH portal. This application can be improved by providing suitable screening tool to identify perinatal depression, while adding information for self-help and list of facilities for further management.

However, several challenges and barriers may be faced in considering the implementation any of the options to increase detection of postnatal depression in Malaysia. Challenges can be categorised into healthcare system or targeted population; patient/women. Summary of potential barriers are summarized in the table below.

Table 6: Barriers and challenges for implementation of screening for perinatal depression

Type of Barrier	Option1: Screening at primary care clinics	Option 2: Online screening
Patient/Clients	Findings from a systematic review found barriers include: cost and lack of insurance coverage, time constraints, social stigma, non-adherence to depression treatment, lack of follow-through with mental health referrals and lack of access to care for various reasons. Other barriers include need for childcare during mental health visits, concern about medication effects on nursing infants, and fear of judgment and referral to child protection (75). Mothers were hesitant to discuss depressive symptoms with their children's paediatricians due to uncertainty and fear of judgment, especially if they felt they did not know the paediatrician well or feared being reported to child protective services (75). Other barriers include social stigma, cost of treatment, concern that insurance does not cover care, lack of knowledge about the impact of depression on their own health and the health of their infants, and lack of knowledge about where to seek treatment. Time constraints, especially for new mothers, and a lack of access to child-care during postpartum visits, are additional worries.	Poor response rate: typical response rates for internet surveys range from 50 to 65% (78). Target population, women in perinatal period, may not response to the screening even if they are accessible to the application. Despite the willingness to disclose, a large-scale Internet survey found that 57% of their sample with significant depressive symptoms did not seek any type of psychological treatment since giving birth (78).

	Non-citizen mothers may face financial barriers as they have to pay a consultation fee of RM40 compared to no fee for Malaysian citizen (76). Recent report by IDS revealed a total of 6.18% of antenatal attendees in 2016 were non-Malaysian (77).	
Organisational and Individual physician	Findings from a systematic review found barriers include: lack of time, managed care policies, competing demands, insufficient training/knowledge, insurance or payment problems, and fear of legal repercussions (79). Most common organizational barriers reported were inadequate time to provide counselling or education or to take an adequate health history from the patient. Other organizational barriers included limited treatment options due to the mother's insurance coverage, lack of access to affordable mental health professionals, and general unavailability of mental health resources.	Problem with internet penetration to targeted population: extent to which the Internet can reach segments of the population that are at higher risk for postpartum depression (80). Malaysia: percentage of Internet users in 2016 was 76.9% with only 25.2% from rural area (82). Further well-designed trials or studies followed by systematic review are needed before web-based or internet-based screening can be deemed effective for detection, management and treatment of perinatal depression.
Workforce Barrier	Findings from a systematic review found barriers include: infrequent follow-up visits for mothers, lack of objective, proactive monitoring of recovery, and separation of primary care and mental health services (79).	A dedicated team is required to regularly monitor the portal if the application include an option for online help.

	Shortages of primary care providers, especially in rural areas, further impede the likelihood that new mothers will be screened and treated for depression. With severe shortage of mental health professionals, it will hamper access to treatment and likely damper screening by primary care providers.	

Based on the information gathered in this policy brief, it is recommended to consider the implementation of screening for perinatal depression. In summary, recommendations are as below:

1. Screening can be implemented using combination of both universal screening at primary care clinics and online portal screening at MOH and NGO website. Combination of both approaches will ensure maximum coverage for the target population
2. Screening for perinatal depression is recommended to be done at one-month clinic postnatal visit. This clinic visit is a readily scheduled consultation for postnatal care as well as child health for immunisation. This will not incur additional cost to the women as well as healthcare system.
3. Screening is suggested to be implemented as a two-stages screening; universal screening using PHQ-2 followed by Edinburgh Postnatal Depression Scale (EPDS) to those with positive response. PHQ-2 with two questions and EPDS with 10 questions are locally validated tools which can be implemented as self-administered by the women
4. There is an established referral pathway for mental health problem at the primary care clinics such as stated in the Perinatal Care Manual while listed available health services and online help can be made available at the readily available online screening Ministry of Health portal

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Appendices

Appendix 1: Edinburgh Postnatal Depression Scale (EPDS) – English

As you are pregnant or have recently had a baby, we would like to know how you are feeling. Please check the answer that comes closest to how you have felt IN THE PAST 7 DAYS, not just how you feel today.

In the past 7 days:

1. I have been able to laugh and see the funny side of things
   - ☐ As much as I always could
   - ☐ Not quite so much now
   - ☐ Definitely not so much now
   - ☐ Not at all

2. I have looked forward with enjoyment to things
   - ☐ As much as I ever did
   - ☐ Rather less than I used to
   - ☐ Definitely less than I used to
   - ☐ Hardly at all

3. I have blamed myself unnecessarily when things went wrong
   - ☐ Yes, most of the time
   - ☐ Yes, some of the time
   - ☐ Not very often
   - ☐ No, never

4. I have been anxious or worried for no good reason
   - ☐ No, not at all
   - ☐ Hardly ever
   - ☐ Yes, sometimes
   - ☐ Yes, very often

6. Things have been getting on top of me
   - ☐ Yes, most of the time I haven’t been able to cope at all
   - ☐ Yes, sometimes I haven’t been coping as well as usual
   - ☐ No, most of the time I have coped quite well
   - ☐ No, I have been coping as well as ever

7. I have been so unhappy that I have had difficulty sleeping
   - ☐ Yes, most of the time
   - ☐ Yes, sometimes
   - ☐ Not very often
   - ☐ No, not at all

8. I have felt sad or miserable
   - ☐ Yes, most of the time
   - ☐ Yes, quite often
   - ☐ Not very often
   - ☐ No, not at all

9. I have been so unhappy that I have been crying
   - ☐ Yes, most of the time
   - ☐ Yes, quite often
   - ☐ Only occasionally
   - ☐ No, never

5. I have felt scared or panicky for no very good reason

- ☐ Yes, quite a lot
- ☐ Yes, sometimes
- ☐ No, not much
- ☐ No, not at all

10. The thought of harming myself has occurred to me

- ☐ Yes, quite often
- ☐ Sometimes
- ☐ Hardly ever
- ☐ Never

Appendix 2: Edinburgh Postnatal Depression Scale (EPDS) – Malay

Sila TANDAKAN (/) pada pilihan jawapan yang paling hampir bagi menggambarkan apa yang anda telah rasakan DALAM MASA 7 HARI YANG LALU dan bukan sekadar hari ini sahaja. Sila jawab kesemua soalan (10 pernyataan). Terima kasih.

Dalam masa 7 hari yang lalu:

1. Saya dapat ketawa dan melihat kelucuan pada sesuatu perkara
   - ☐ Sebanyak mana biasa
   - ☐ Kurang daripada biasa
   - ☐ Sangat kurang daripada biasa
   - ☐ Tiada langsung

2. Saya menanti dengan penuh harapan bagi mendapatkan kenikmatan apabila melakukan sesuatu perkara
   - ☐ Sebanyak mana biasa
   - ☐ Agak urang daripada biasa
   - ☐ Sangat kurang daripada biasa
   - ☐ Tiada pernah langsung

3. Saya menyalahkan diri sendiri secara tidak sepatutnya apabila sesuatu yang tidak kena terjadi
   - ☐ Ya, sepanjang masa
   - ☐ Ya, kadangkala
   - ☐ Jarang sekali
   - ☐ Tiada pernah

4. Saya berasa risau atau bimbang tanpa sebab
   - ☐ Tidak langsung
   - ☐ Amat jarang sekali
   - ☐ Ya, kadangkala
   - ☐ Ya, sangat kerap

6. Saya dibebani oleh terlalu banyak masalah
   - ☐ Ya, kebanyakan masa saya tidak berupaya menanganinya langsung
   - ☐ Ya, kadangkala saya tidak berupaya menanganinya seperti biasa
   - ☐ Tidak, kebanyakan masa saya berupaya menanganinya sengan baik
   - ☐ Tidak, saya berupaya menangani semua masalah dengan baik pada setiap masa

7. Saya berasa sungguh sedih sehingga saya mengalami kesukaran untuk tidur
   - ☐ Kebanyakan masa
   - ☐ Kadang-kadang
   - ☐ Jarang-jarang sekali
   - ☐ Tidak pernah

8. Saya berasa sedih atau serabut
   - ☐ Ya, kebanyakan masa
   - ☐ Ya, agak kerap
   - ☐ Jarang-jarang sekali
   - ☐ Tidak pernah

9. Saya berasa sangat sedih sehingga saya menangis
   - ☐ Ya, kebanyakan masa
   - ☐ Ya, agak kerap
   - ☐ Hanya sekali sekala
   - ☐ Tidak pernah

5. Saya berasa takut atau panik tanpa sebab

- Ya, sangat kerap
- Ya, kadangkala
- Jarang sekali
- Tiada pernah

10. Pernah terlintas di fikiran saya keinginan untuk mencederakan diri sendiri

- Ya, kebanyakan masa
- Ya, agak kerap
- Amat jarang sekali
- Tidak pernah

Appendix 3: Beck Depression Inventory (BDI) – English

Instructions: This questionnaire consists of 21 groups of statements. Please read each group of statements carefully. And then pick out the one statement in each group that best describes the way you have been feeling during the past two weeks, including today. Circle the number beside the statement you have picked. If several statements in the group seem to apply equally well, circle the highest number for that group. Be sure that you do not choose more than one statement for any group, including Item 16 (Changes in Sleeping Pattern) or Item 18 (Changes in Appetite).

1 Sadness
0 I do not feel sad.
1 I feel sad
2 I am sad all the time and I can't snap out of it.
3 I am so sad and unhappy that I can't stand it.

2 Pessimism
0 I am not particularly discouraged about the future.
1 I feel discouraged about the future.
2 I feel I have nothing to look forward to.
3 I feel the future is hopeless and that things cannot improve.

3 Past Failure
0 I do not feel like a failure.
1 I feel I have failed more than the average person.
2 As I look back on my life, all I can see is a lot of failures.
3 I feel I am a complete failure as a person.

4 Loss of Pleasure
0 I get as much satisfaction out of things as I used to.
1 I don't enjoy things the way I used to.
2 I don't get real satisfaction out of anything anymore.
3 I am dissatisfied or bored with everything.

5 Guilty Feelings
0 I don't feel particularly guilty

7 Self-Dislike
0 I don't feel disappointed in myself.
1 I am disappointed in myself.
2 I am disgusted with myself.
3 I hate myself.

8 Self-Criticalness
0 I don't feel I am any worse than anybody else.
1 I am critical of myself for my weaknesses or mistakes.
2 I blame myself all the time for my faults.
3 I blame myself for everything bad that happens.

9 Suicidal Thoughts or Wishes
0 I don't have any thoughts of killing myself.
1 I have thoughts of killing myself, but I would not carry them out.
2 I would like to kill myself.
3 I would kill myself if I had the chance.

10 Crying
0 I don't cry any more than usual.
1 I cry more now than I used to.
2 I cry all the time now.
3 I used to be able to cry, but now I can't cry even though I want to.

11 Agitation

1 I feel guilty a good part of the time.
2 I feel quite guilty most of the time.
3 I feel guilty all of the time.

6 Punishment Feelings
0 I don't feel I am being punished.
1 I feel I may be punished.
2 I expect to be punished.
3 I feel I am being punished.

13 Indecisiveness
0 I make decisions about as well as I ever could.
1 I put off making decisions more than I used to.
2 I have greater difficulty in making decisions more than I used to.
3 I can't make decisions at all anymore.

14 Worthlessness
0 I don't feel that I look any worse than I used to.
1 I am worried that I am looking old or unattractive.
2 I feel there are permanent changes in my appearance that make me look unattractive
3 I believe that I look ugly.

15 Loss of Energy
0 I can work about as well as before.
1 It takes an extra effort to get started at doing something.
2 I have to push myself very hard to do anything.
3 I can't do any work at all.

0 I am no more irritated by things than I ever was.
1 I am slightly more irritated now than usual.
2 I am quite annoyed or irritated a good deal of the time.
3 I feel irritated all the time.

12 Loss of Interest
0 I have not lost interest in other people.
1 I am less interested in other people than I used to be.
2 I have lost most of my interest in other people.
3 I have lost all of my interest in other people.

18 Changes in Appetide
0 My appetite is no worse than usual.
1 My appetite is not as good as it used to be.
2 My appetite is much worse now.
3 I have no appetite at all anymore.

19 Concentration Difficulty
0 I haven't lost much weight, if any, lately.
1 I have lost more than five pounds.
2 I have lost more than ten pounds.
3 I have lost more than fifteen pounds.

20 Tiredness or Fatigue
0 I am no more worried about my health than usual.
1 I am worried about physical problems like aches, pains, upset stomach, or constipation.
2 I am very worried about physical problems and it's hard to think of much else.

3 I am so worried about my physical problems that I cannot think of anything else.

16 Changes in Sleeping Pattern
0 I can sleep as well as usual.
1 I don't sleep as well as I used to.
2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
3 I wake up several hours earlier than I used to and cannot get back to sleep.

17 Irritability
0 I don't get more tired than usual.
1 I get tired more easily than I used to.
2 I get tired from doing almost anything.
3 I am too tired to do anything.

21 Loss of Interest in Sex
0 I have not noticed any recent change in my interest in sex.
1 I am less interested in sex than I used to be.
2 I have almost no interest in sex.
3 I have lost interest in sex completely.

Total Score: ___________

Appendix 4: Beck Depression Inventory (BDI) – Malay

Soal-selidik ini mengandungi 21 kumpulan penyataan. Setelah anda membaca semua kumpulan pernyataan ini dengan teliti, bulatkan nombor (0, 1, 2, 3) yang terdapat disebelah setiap pernyataan yang menerangkan bagaimana perasaan anda pada minggu lepas, termasuk hari ini. Sekiranya pernyataan di dalam kumpulan itu memberi jumlah yang samarata, bulatkan salah satu. Pastikan anda baca pernyataan untuk setiap kumpulan tersebut dengan teliti sebelum membuat keputusan.

1 Kesedihan
0 Saya tak rasa sedih
1 Saya rasa sedih
2 Saya kesedihan sepanjang masa dan sukar meredakannya
3 Saya sangat sedih atau tak gembira sehingga tak mampu menanggungnya lagi

2 Pesimis
0 Saya tak rasa lemah semangat mengenai masa depan
1 Saya rasa lemah semangat tentang masa depan
2 Saya rasa tiada apa yang hendak diharapkan
3 Saya rasa masa depan saya mengecewakan dan keadaan takkan bertambah baik

3 Kegagalan Lalu
0 Saya tak rasa saya seorang yang gagal
1 Saya rasa saya dah gagal lebih dari orang biasa
2 Apabila terkenangkan masa lalu, saya hanya nampak banyak kegagalan
3 Saya rasa saya seorang manusia yang benar-benar gagal

4 Hilang Kepuasan
0 Saya dapat kepuasan daripada perkara yang pernah saya lakukan
1 Saya tak seronok seperti dulu
2 Saya tak dapat kepuasan sebenar daripada apa sahaja

7 Tidak suka diri sendiri
0 Saya tak rasa kecewa dengan diri saya
1 Saya kecewa dengan diri saya
2 Saya rasa meluat dengan diri saya
3 Saya benci diri saya

8 Kritik diri sendiri
0 Saya tak rasa saya lebih teruk daripada orang lain
1 Saya sentiasa mencari kelemahan dan kesilapan diri sendiri
2 Saya menyalahkan diri saya setiap kali berlaku kesilapan
3 Saya menyalahkan diri sendiri atas setiap perkara buruk yang berlaku

9 Fikir untuk bunuh diri
0 Saya tak terfikir untuk bunuh diri
1 Saya ada terfikir untuk bunuh diri, tapi saya tak akan melakukannya
2 Saya ingin bunuh diri
3 Saya akan bunuh diri jika berpeluang

10 Menangis
0 Saya tak menangis lagi daripada kebiasaannya
1 Saya kerap menangis sekarang daripada biasa
2 Saya kini menangis sepanjang masa

3 Saya tak puas hati atau bosan dengan segalanya.

5 Rasa Bersalah
0 Saya tak rasa begitu bersalah
1 Saya rasa bersalah sekali-sekala sahaja
2 Saya rasa agak bersalah hampir setiap masa
3 Saya rasa bersalah sepanjang masa

6 Rasa Dihukum
0 Saya tak rasa saya sedang dihukum
1 Saya rasa saya mungkin dihukum
2 Saya percaya saya akan dihukum
3 Saya rasa saya sedang dihukum

3 Saya biasanya boleh menangis, tapi kini saya tak dapat menangis walaupun saya mahu

11 Sakit hati
0 Saya tidak lagi sakit hati seperti sebelum ini
1 Saya lebih mudah meradang atau sakit hati daripada biasa
2 Saya rasa sakit hati sepanjang masa
3 Saya tak lagi rasa sakit hati dengan perkara yang selalunya menyakitkan hati saya sebelum ini

12 Hilang minat
0 Saya tak hilang minat terhadap orang lain
1 Saya kurang minat terhadap orang lain berbanding dulu
2 Saya hampir hilang minat terhadap orang lain
3 Saya tak berminat langsung dengan orang lain

13 Sukar buat keputusan
0 Saya cuba buat keputusan sebaik mungkin
1 Saya lebih sering menangguh urusan membuat keputusan
2 Saya sukar buat keputusan berbanding dulu
3 Saya tidak lagi mampu membuat keputusan

14 Tak berguna
0 Saya tak kelihatan teruk berbanding dulu
1 Saya risau kelihatan tua atau tak menarik
2 Saya rasa ada perubahan kekal pada penampilan saya yang membuat saya kelihatan kurang menarik
3 Saya percaya saya kelihatan hodoh

15 Hilang tenaga
0 Saya boleh bekerja dengan baik seperti biasa

17 Terganggu
0 Saya tak rasa letih lebih dari biasa
1 Saya lebih mudah letih dari biasa
2 Saya letih ketika melakukan apa saja
3 Saya terlalu letih untuk buat apa sahaja

18 Perubahan selera
0 Selera makan saya tak seteruk dulu
1 Selera makan saya tak sebagus seperti selalu
2 Selera makan saya makin teruk
3 Saya langsung tak ada selera

19 Masalah berat badan
0 Saya tak hilang banyak berat badan akhir-akhir ini

1 Ia mengambil usaha yang lebih untuk memulakan sesuatu kerja
2 Saya harus memaksa diri saya untuk buat sesuatu
3 Saya tak boleh lansung membuat apa-apa kerja

16 Perubahan tidur
0 Saya boleh tidur macam biasa
1 Saya tak tidur nyenyak seperti biasa dan sukar untuk tidur semula
2 Saya terjaga 1-2 jam awal daripada biasa dan sukar untuk tidur semula
3 Saya bangun awal beberapa jam daripada biasa dan tak boleh tidur semula

1 Saya hilang berat badan lebih dari lima paun
2 Saya hilang berat badan lebih dari 10 paun
3 Saya hilang berat badan lebih dari 15 paun

20 Risau keadaan fizikal
0 Saya tak lagi bimbangkan kesihatan saya lagi seperti kebiasaannya
1 Saya risau masalah fizikal seperti sengal dan kesakitan; perut sebu; atau sembelit
2 Saya risau dengan masalah fizikal ini hingga sukar untuk memikirkan perkara lain
3 Saya sangat risau dengan masalah fizikal saya sehinggakan langsung tak dapat fikir hal lain

Appendix 5: The Center For Epidemiological Study – Depression Scale (CES-D)

how you have felt and behaved over the last week?	Rarely or none of the time (<1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of the time (3-4 days)	Most or all of the time (5-7 days)
I was bothered by things that don't usually bother me.				
I did not feel like eating; my appetite was poor.				
I felt that I could not shake off the blues even with the help of my family or friends.				
I felt that I was just as good as other people.				
I had trouble keeping my mind on what I was doing.				
I felt depressed.				
I felt everything I did was an effort.				
I felt hopeful about the future.				
I thought my life had been a failure.				
I felt fearful.				
My sleep was restless.				
I was happy.				
I talked less than usual.				
I felt lonely.				
People were unfriendly.				
I enjoyed life.				
I had crying spells.				
I felt sad.				
I felt that people disliked me.				
I could not get "going".				

Appendix 6: Malay-Translated Version of The Center For Epidemiological Study – Depression Scale (CES-D)

Arahan: Di bawah adalah senarai sebahagian perkara yang anda mungkin rasa atau lakukan. Tandakan **(√)** pada kenyataan yang paling tepat dengan diri anda.

Sepanjang minggu lepas…	Jarang / tiada	Kadang - kadang (1 – 2 hari)	Kerapkali (3 – 4 hari)	Pada setiap masa (5 – 7 hari)
Fikiran saya diganggu oleh hal yang selalunya tidak menggangu saya				
Saya tiada selera untuk makan				
Saya rasa saya tidak dapat menghapuskan perasaan tertekan walaupun dengan bantuan kawan-kawan saya				
Saya rasa saya sebaik orang lain				
Saya mempunyai masalah untuk menumpukan perhatian kepada kerja yang saya lakukan				
Saya rasa tertekan				
Saya rasa semua yang saya lakukan adalah satu usaha				
Saya rasa mempunyai harapan yang baik untuk masa depan saya				
Saya fikir hidup saya telah mengalami kegagalan				
Saya merasa sangat takut				
Tidur saya terganggu				
Saya gembira				
Saya bercakap kurang berbanding kebiasaannya				
Saya berasa kesunyian				
Orang di sekeliling saya tidak mesra				
Saya menikmati hidup saya				
Saya memaki-hamun / menyumpah				

Saya berasa sedih				
Saya rasa orang lain tidak sukakan saya				
Saya tidak dapat meneruskan hidup				

Appendix 7: Montgomery-Asberg Depression Rating Scale (MADRS)

Instructions: The ratings should be based on a clinical interview moving from broadly phrased questions about symptoms to more detailed ones which allow a precise rating of severity. The rater must decide whether the rating lies on the defined scale steps (0, 2, 4, 6) or between them (1, 3, 5). It is important to remember that it is only rare occasions that a depressed patient is encountered who cannot be rated on the items in the scale. If definite answers cannot be elicited from the patients, all relevant clues as well as information from other sources should be used as a basis for the rating in line with customary clinical practice. This scale may be used for any time interval between ratings, be it weekly or otherwise, but this must be recorded.

1. Apparent Sadness
Representing despondency, gloom and despair, (more than just ordinary transient low spirits) reflected in speech, facial expression, and posture. Rate on depth and inability to brighten up.
0 No sadness
2 Looks dispirited but does brighten up without difficulty.
4 Appears sad and unhappy most of the time.
6 Looks miserable all the time. Extremely despondent.

2. Reported Sadness
Representing reports of depressed mood, regardless of whether it is reflected in appearance or not. Includes low spirits, despondency or feeling of being beyond help without hope. Rate according to intensity, duration and the extent to which the mood is reported to be influenced by events.
0 Occasional sadness in keeping with the circumstances.
2 Sad or low but brightens up without difficulty.
4 Pervasive feelings of sadness or gloominess. The
mood is still influenced by external circumstances.
6 Continuous or unvarying sadness, misery or despondency.

3. Inner Tension
Representing feelings of ill-defined discomfort, edginess, inner turmoil mounting to either panic, dread or anguish. Rate according to intensity, frequency, duration and the extent of reassurance called for.
0 Placid. Only reflecting inner tension.
2 Occasional feelings of edginess and ill-defined discomfort.
4 Continuous feelings of inner tension or intermittent panic which the patient can only master with some difficulty.
6 Unrelenting dread or anguish. Overwhelming panic.

4. Reduced Sleep
Representing the experience of reduced duration or depth of sleep compared to the subject’s own normal pattern when well.
0 Sleeps as usual.
2 Slight difficulty dropping off to sleep or slightly reduced light or fitful sleep.
4 Sleep reduced or broken by at least two hours.
6 Less than two or three hours sleep.

5. Reduced Appetite
Representing the feeling of loss of appetite compared with when well. Rate by loss of desire for food or the need to force oneself to eat.
0 Normal or increased appetite.
2 Slightly reduced appetite.
4 No appetite. Food is tasteless.
6 Needs persuasion to eat.

6. Concentration Difficulties
Representing difficulties in collecting one's thoughts mounting to incapacitating lack of concentration. Rate according to intensity, frequency, and degree of incapacity produced.
0 No difficulties in concentrating.
2 Occasional difficulties in collecting one's thoughts.
4 Difficulties in concentrating and sustaining thought which reduces ability to read or hold a conversation.
6 Unable to read or converse without great initiative.

7. Lassitude
Representing a difficulty getting started or slowness initiating and performing everyday activities.
0 Hardly no difficulty in getting started. No sluggishness.
2 Difficulties in starting activities.
4 Difficulties in starting simple routine activities which are carried out with effort.
6 Complete lassitude. Unable to do anything without help.

8. Inability to Feel
Representing the subjective experience of reduced interest in the surroundings, or activities that normally give pleasure. The ability to react with adequate emotion to circumstances or people is reduced.
0 Normal interest in the surroundings and in other people.
2 Reduced ability to enjoy usual interest.
4 Loss of interest in surroundings. Loss of feelings for friends and acquaintances.
6 The experience of being emotionally paralyzed, inability to feel anger, grief or pleasure and a complete or even painful failure to feel for close relatives and friends.

9. Pessimistic Thoughts
Representing thoughts of guilt. Inferiority, self-reproach, sinfulness, remorse and ruin.
0 No pessimistic thoughts.
2 Fluctuating ideas of failure, self-reproach or self-depreciation.
4 Persistent self-accusations, or definite but still rational ideas of guilt or sin. Increasingly pessimistic about the future.
6 Delusions of ruin, remorse or unredeemable sin. Self-accusations which are absurd and unshakable.

10. Suicidal Thoughts
Representing the feeling that life is not worth living, that a natural death would be welcome, suicidal thoughts, and the preparations for suicide. Suicidal attempts should not in themselves influence the rating.
0 Enjoys life or takes it as it comes.
2 Weary of life. Only fleeting suicidal thoughts.
4 Probably better off dead. Suicidal thoughts are common, and suicide is considered as a possible solution, but without specific plans or intention.

6 Explicit plans for suicide when there is an opportunity. Active preparations for suicide.

Total Score:_________________

Appendix 8: Patient Health Questionnaire-2 (PHQ-2) – English

Over the **past 2 weeks**, how often have you been bothered by any of the following problems? *(Use " ✔" to indicate your answer)*	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed or hopeless	0	1	2	3

Appendix 9: Malay Translated Version of the Patient Health Questionnaire-2 (PHQ-2) / Soal Selidik Kesihatan Pesakit-2

Dalam tempoh **2 minggu yang lalu**, berapa kerapkah anda telah terganggu oleh sebarang masalah yang berikut? *(Gunakan tanda betul " ✔" untuk menyatakan jawapan anda)*	Tiada langsung	Beberapa hari	Lebih daripada 7 hari	Hampir setiap hari
1. Kurang berminat atau keseronokan dalam melakukan sesuatu perkara	0	1	2	3
2. Rasa sedih, tidak gembira atau putus asa	0	1	2	3

Appendix 10: Patient Health Questionnaire-9 (PHQ-9) – English

Over the **past 2 weeks**, how often have you been bothered by any of the following problems? *(Use "✔" to indicate your answer)*	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself — or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead or of hurting yourself in some way	0	1	2	3

FOR OFFICE CODING ___*0*___ + ______ + ______ +

=Total Score: ___

If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult
☐	☐	☐	☐

Appendix 11: Malay Translated Version of the Patient Health Questionnaire-9 (PHQ-9)/ Soal Selidik Kesihatan Pesakit-9

Dalam tempoh **2 minggu yang lalu**, berapa kerapkah anda telah terganggu oleh sebarang masalah yang berikut? *(Gunakan tanda betul "✔" untuk menyatakan jawapan anda)*	Tiada langsung	Beberapa hari	Lebih daripada 7 hari	Hampir setiap hari
1. Kurang berminat atau keseronokan dalam melakukan sesuatu perkara	0	1	2	3
2. Rasa sedih, tidak gembira atau putus asa	0	1	2	3
3. Masalah untuk tidur atau tidur nyenyak atau tidur berlebihan	0	1	2	3
4. Rasa letih atau mempunyai sedikit tenaga	0	1	2	3
5. Kurang selera atau makan berlebihan	0	1	2	3
6. Rasa buruk mengenai diri anda — atau anda seorang yang gagal atau anda telah menyebabkan diri anda atau keluarga anda kecewa	0	1	2	3
7. Masalah untuk menumpukan perhatian ke atas sesuatu perkara seperti membaca surat khabar atau menonton televisyen	0	1	2	3
8. Bergerak atau bercakap terlalu perlahan sehinggakan orang lain perasan? Atau sebaliknya — menjadi sangat resah atau gelisah sehinggakan anda telah bergerak dengan banyak daripada biasa	0	1	2	3
9. Memikirkan adalah lebih baik saja jika anda mati atau mencederakan diri sendiri dalam beberapa cara	0	1	2	3

FOR OFFICE CODING __*0*__ + ______ + ______ +

=Total Score: ___

Jika anda menandakan sebarang masalah, sejauh manakah masalah-masalah tersebut membuatkan anda sukar untuk membuat kerja anda, menguruskan kerja-kerja di rumah atau bergaul dengan orang lain?

Tidak mempunyai kesukaran langsung ☐	Agak sukar ☐	Sangat sukar ☐	Terlampau sukar ☐

Appendix 12: RAND 3-Question Screen

Almost everyone has experienced times of feeling sad or depressed, like when suffering from a severe illness, when a per- son close to you has died, or if there are problems at work or in the family. The following questions are about such times.

1. Have you ever had **2 years or more** in your life when you felt depressed or sad most days, even if you felt OK sometimes? (Circle one)

   Yes No (Skip to Question 2)

   a. Did any period like that ever last 2 years without an interruption of 2 full months when you felt OK?

   Yes No (Skip to Question 2)

   b. Did any of those long periods of feeling sad or depressed continue into the last 12 months?

   Yes No

2. In the last **12 months**, have you had **2 weeks or longer** when ... (Circle one answer on each line)

   a. nearly every day you felt sad, empty or depressed for most of the day?

   Yes No

   b. you lost interest in most things like work, hobbies, and other things you usually enjoyed?

   Yes No

3. In the **last month** did you have a period of **1 week or more** when ... (Circle one answer on each line)

   a. nearly every day you felt sad, empty or depressed for most of the day?

   Yes No

   b. you lost interest in most things like work, hobbies, and other things you usually enjoyed?

   Yes No

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Check if	1 AND 1a and 1b are yes OR 2a OR 2b is yes AND
☐	

Appendix 13: Whooley Questions for Depression Screening

1. During the last month, have you often been bothered by feeling down, depressed or hopeless?

YES ☐ NO ☐

2. During the last month, have you often been bothered by little interest or pleasure in doing things?

YES ☐ NO ☐

"YES" to one (or both) questions	= positive test (requires further evaluation)
"NO" to both questions	= negative test (not depressed)