Detective of pregnancy risk: A Literature Review

Ririn Indriani*1,2, Sri Wahyuni3, Kun A Susiloretni1

1 Poltekkes Kemenkes Semarang, Indonesia
2 Poltekkes Kemenkes Malang Indonesia
3 Poltekkes Kemenkes Surakarta, Indonesia

* ririnindrianimiori79@gmail.com

ABSTRACT

Other symptoms and danger signs of pregnancy such as pregnancy outside the womb, infection of amniotic fluid, leakage of amniotic fluid before termination of pregnancy, bleeding without any signs of labor, must be detected by health cadres, before being referred to a more adequate health facility. In the millennial era unhealthy eating patterns and lifestyles associated with excess weight gain (obesity), diabetes mellitus, cholesterol and pregnancy complications, concomitant diseases such as heart disease, cholesterol, mothers exposed to alcohol, cigarettes or narcotics must be know. This study aimed to know the effectiveness of media books for pregnancy detection. The keywords used were detection of pregnancy risk, symptoms and signs of pregnancy.

This literature review used articles from Google Scholar, Science Direct, Pubmed, DOAJ published from 2010 to 2020. The inclusion criteria are full text articles, using English language, survey research, workshop, and pilot study to health promotion. The exclusion criteria are articles was non English language, incomplete articles, case study.

Containing symptoms and danger signs is effective for risk detection in early pregnancy.

Keywords: Detection of Pregnancy Risk, Symptoms, Signs Of Pregnancy

Website: https://sjik.org/index.php/sjik | Email: publikasistrada@gmail.com
BACKGROUND

As much as 3-14% hypertension is the main cause of maternal death, in other words 30,000 maternal deaths out of 500,000 deaths are caused by hypertension in pregnancy, with early symptoms of pre-eclampsia, eclampsia, stroke, to liver, kidney and heart damage, so detection is needed early to prevent these complications. Other symptoms and danger signs of pregnancy such as pregnancy outside the womb, infection of amniotic fluid, leakage of amniotic fluid before termination of pregnancy, bleeding without any signs of labor, must be detected by health cadres, before being referred to a more adequate health facility. In the millennial era unhealthy eating patterns and lifestyles associated with excess weight gain (obesity), diabetes mellitus, cholesterol and pregnancy complications, concomitant diseases such as heart disease, cholesterol, mothers exposed to alcohol, cigarettes or narcotics must be known by women (Maseresha, 2016).

Lifestyle and unhealthy eating patterns associated with excess weight gain (obesity), diabetes mellitus, cholesterol and pregnancy complications, comorbidities such as heart disease, cholesterol, mothers exposed to alcohol, cigarettes or narcotics must be known by health (Hallscots, 2014). A study states that the first step in making timely referrals is knowledge of the danger signs and complications of pregnancy. Screening for danger signs of pregnancy in early pregnancy is one of the main strategies to reduce maternal mortality. Pregnant women and families can recognize the danger signs of pregnancy, to immediately seek health services, so that by increasing knowledge about detection of pregnancy risk it is expected that pregnant women will more quickly get health services according to the case they are experiencing. In contrast to research in Tanzania which states that antenatal care, programs include health promotion, prevention, detection, and treatment of disease. This health promotion contains information for preparation for delivery so that pregnant women realize that pregnancy and childbirth complications cannot be predicted (Dogra et al, 2019). Some conditions that become complications of pregnancy that should be known by pregnant women are fever in malaria endemic areas, coughing for more than 2 weeks, vaginal discharge and itching in the pubic area, recurring diarrhea, palpitations, anxiety and sleeplessness. The impact of repeated coughing for more than 2 weeks on the mother can cause respiratory infections and on the fetus can cause low birth weight babies (Teng et al, 2015). Anxious feelings during excessive pregnancy also have an impact on the well-being of the mother and fetus. The period of pregnancy should be passed by the mother as a pleasant period so that the fetus also feels happy and its growth in the womb will also take place maximally. Awareness to know and detect early on pregnancy danger signs will be able to increase efforts to reduce MMR by speeding up early detection and obtaining health services that are appropriate to the case. In line with research conducted in Malaysia which used a questionnaire about pregnancy danger signs, it was found that the knowledge of pregnant women about detection of pregnancy risks still needs to be improved. Strong relationships and a sense of togetherness make community members feel more concerned about health issues so there is a desire to detect risks to health problems (Witteveen, 2016; Ali, 2017).

METHODS

This literature review used articles from Google Scholar, Science Direct, Pubmed, DOAJ published from 2010 to 2020. The inclusion criteria are full text articles, using English language, survey research, workshop, and pilot study to health promotion. The exclusion criteria are articles was non English language, incomplete articles, case study. The keywords used were : Detection of pregnancy risk, symptoms and signs of pregnancy.
RESULTS
The results of a research database are 280 articles. as many as 97 articles have similarities or similarities to the title, 167 articles are not relevant. after using the inclusion and exclusion criteria 8 articles were found that are suitable for this literature

![Flowchart of the exclusion process and final selection](Image)

<table>
<thead>
<tr>
<th>Author</th>
<th>Respondent</th>
<th>Sampel</th>
<th>Age</th>
<th>Design</th>
<th>Experience (Month)</th>
<th>Result</th>
</tr>
</thead>
</table>
| Xinliang   | 3202 participants | Pregnant women | 15-45 | A cross-sectional survey using our previously developed preconception instrument was conducted | 14                 | 2806 of them and0.001 their partners have completed the questionnaire, at a rate of 87.6%, 1011 were from Jiangsu and 1795 were from Hebei. Statistical significance was obtained for maternal age (P < 0.001), body mass index (u =13.590, P <0.001), education ($\chi^2 = 916.33$, P < 0.001), occupation ($\chi^2 = 901.78$, P < 0.001), health status/common disease, immunization status, and need for

Website: [https://sjik.org/index.php/sjik](https://sjik.org/index.php/sjik) | Email: publikasistrada@gmail.com
<table>
<thead>
<tr>
<th>Year</th>
<th>Authors</th>
<th>Participants</th>
<th>&lt;20-40</th>
<th>Workshop Effectiveness</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>Shelley</td>
<td>182 participants</td>
<td>Pregnant women</td>
<td>Workshop effectiveness was evaluated using an RCT</td>
<td>Significantly more women in the intervention met pregnancy fruit guidelines at time 2 (+4.3%, p = 0.011) and had a clinically-relevant increase in physical activity (+27 minutes/week) compared with women who only received the resource (ITT). Women who attended the workshop increased their consumption of serves of fruit (+0.4 serves/day, p = 0.004), vegetables (+0.4 serves/day, p = 0.006), met fruit guidelines (+11.9%, p &lt; 0.001), had a higher diet quality score (p = 0.027) and clinically-relevant increases in physical activity (+21.3 minutes/week) compared with those who only received the resource (PP).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Authors</th>
<th>Participants</th>
<th>&lt;20-40</th>
<th>Inclusion Criteria</th>
<th>Maternal cfDNA levels were significantly higher in women diagnosed with intrahepatic cholestasis of pregnancy (ICP) and preeclampsia (PE) compared to pregnant women with non-pregnancy complications</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>Xiaosong</td>
<td>831 pregnant women</td>
<td>Underwent NPI at 12–22 weeks of gestation</td>
<td>This was a retrospective cohort study. Maternal plasma cfDNA levels and pregnancy outcomes were obtained from NPI Screening System and hospitalization</td>
<td>Maternal cfDNA levels were significantly higher in women diagnosed with intrahepatic cholestasis of pregnancy (ICP) and preeclampsia (PE) compared to pregnant women with non-pregnancy complications</td>
</tr>
</tbody>
</table>
the cohort were as follows: 1) pregnant women between 18 and 50 years old; 2) were between 12 and 22 weeks of gestation; 3) had negative NIPT results and gave birth in our hospital; 4) singleton pregnancy, live birth without birth defects.

Rebecca 2018 831 pregnant women who underwent NIPT at 12–22 weeks of gestation

Pregnant women 18 Very few 2 participants preferred their physicians to make the final decision about treatment either with (6%) or without (1%) their input. About half of participants (48%) preferred to make the final decision about treatment after considering their physicians’ opinion, whereas roughly equal proportions preferred making decisions with their physicians

(Logistic regression analysis was performed to investigate the relationship between cfDNA levels and pregnancy complications (after adjusting for confounding factors)

(NPC) (median cfDNA 7.07, 6.42 vs. 5.99 ng/mL). Increase in cfDNA levels were associated with an increased risk for ICP (adjusted-OR=1.20, 95% CI: 1.07–1.34) and PE (adjusted-OR=1.14, 95% CI: 1.02–1.26). In addition, increase in cfDNA levels were associated with risk of GDM, and was dependent on maternal age (maternal age≥35 years: adjusted-OR=1.16, 95% CI: 1.04–1.29; maternal age < 35 years: adjusted-OR=0.85, 95% CI: 0.73–0.99).

Participants who preferred tight control (49%) were more often white (odds ratio [OR] : 2.38; 95% confidence interval [CI]: 1.18-4.55), with a university education / professional qualification (OR 1.95; 95% CI: 1.02-3.7), and had greater knowledge about pregnancy hypertension and pregnancy complications (OR 1.37; 95% CI: 1.15-1.65). Participants
Gillian 2019 24 participants age 4-12 weeks gestational

The planned patient recruitment for the larger trial will be 15 women per service over a period of two years, with an intention that 30 sites will be recruited.

This pilot study used a randomised step-wedge design in six Aboriginal Medical Services (AMSs) in Australia: four services in New South Wales, one in Queensland, and one in South Australia.

Anna 2013 29 participants

Behaviour change-techniques (BCTs) were identified within the literature and used to inform a communication tool to support medical students in discussing health-related behaviour change with patients.

One-sample t-tests showed that judges reliably mapped BCTs onto six of the seven Tent Pegs domains (confidence rating means ranged from 4.0 to 5.1 out of 10, all $p < 0.002$). Only BCTs within the ‘empowering people to change’ domain were not significantly different from the value zero (mean confidence rating = 1.2, $p > 0.05$); these BCTs were most frequently allocated to the ‘addressing thoughts and emotions’ domain instead.

Widyawati 2015

23 respondents

264 pregnant women 25-50+50

A qualitative method with semi-structured interviews

A healthy and-supportive organisation knows its employees, understands their needs and maintains...
and improves their level of competence by providing a combination of facilities, learning resources and training for their employees.

**DISCUSSIONS**

Health promotion tools not only help in overcoming the ignorance of clients and detecting pregnancy risk, but increase competence in detecting pregnancy risk (Zibellini, 2020). In line with research which states that complications during pregnancy such as dizziness, swelling on the face and legs, water coming out before there are signs of labor, heart palpitations, nausea and vomiting throughout the day, use of drugs or chemicals that are not needed by pregnant women (La-Orpipat, 2019). Therefore, detection for pre-eclampsia in the first trimester, which is now supported by an international obstetrics and gynecology association, is highly recommended for all women at 11-13 weeks’ gestation, followed by serial aspirin and maternal administration and fetal surveillance via ultrasound (VIkraman, 2020). Unlike the research on cases of reducing anxiety. The method of using a booklet should not be recommended for pregnant women in clinical practice in obstetrics(18). It has been realized that women’s behavior is influenced by their environment. As such, the program is relevant in supporting cultural traditions with a family focus and even helps educate behavior for a healthier life (Miller, 2012; Ahmadian, 2020). The skills in interacting with diverse populations, various walks of life, and also close to the community to give examples and applications about health (Duysburgh, 2013). In other studies data were collected by questionnaire. After the questionnaire was developed, four medical informatics experts and obstetricians / gynecologists checked for content validity. Statistical tests (Marginal Homogeneity Test) confirm this questionnaire (r = 0.9). Data were analyzed using SPSS, version 19.0. Descriptive statistics (frequency, percentage, and average) are calculated. Chi-square analysis was performed to determine the relationship between internet use, and frequency of internet use. The results are presented as follows: of the 385 pregnant women who were invited to fill out the
questionnaire, three (1%) did not agree to participate in the study (Lamminpaa, 2015). Studies conducted at Tabriz Iran show that the most important sources of information for pregnant women are doctors, midwives, nurses, the internet and print media (Muzik, 2010; Hosseini, 2018). This finding is consistent with the results of other studies in the sense that in all of these studies, the health profession is the main source (Lane-Cordova, 2019). Lack of timely access to a doctor can be a reason for mothers who report that their doctor is not their first source of information to find information. Unlike other studies where all health professions are considered in one class, we separate doctors, midwives / nurses in our questionnaire and as the main source of information are midwives / nurses (61/22%) (Macedo, 2020; Santos et al, 2020).

CONCLUSION
Health during pregnancy risk detection material can be used as an early pregnancy detection.

REFERENCES


Lamminpaa R. Advanced Maternal Age, Pregnancy and Birth [Internet]. Eastern Finland: Department of Nursing Science, Faculty of Health Sciences, University of Eastern Finland Kuopio; 2015. 37–43 p. Available from: Publications of the University of Eastern Finland Dissertations in Health Sciences%0A


