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Research Article

Knowledge, Attitude and Practice of Danger Signs during Pregnancy among Mothers Attending Antenatal Care at Melka Oda Hospital, Southeast Ethiopia

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ABSTRACT

Background: Danger signs of pregnancies are a signs that women encounter during pregnancy, child birth and postpartum which is fatal for both Mather and child health.

It is important, to know this warning signs for women and health care providers to rule out serious complications and initiate treatment immediately.

Objectives: To determine the level of knowledge, attitude and practice of pregnant mothers on danger signs during pregnancy among antenatal care attendants at Malka Oda general Hospital, 2019

Methods: A cross- sectional study was conducted among 208 pregnant women attending Antenatal Care from March 11-June 20/2019.

A total 208 pregnant mother was selected randomly using Systematic random sampling technique. Data was collected by face to face interview. Data were processed and analyzed.

Results: This study found that 80(38.5%) were heard about obstetric danger signs while 128(61.5%) were not.

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One hundred ninety-two (92.3%), 15(7.2%) mothers agreed on importance of seeking medical advice on danger sign during pregnancy.

Sixty-two (29.8%) had experienced any of danger sign during pregnancy. Of those who had experienced any of danger signs 59(95.2%) were sought medical cares while 3 of the mothers reported that they sought care from traditional birth attendants. The savings for health insurance companies add up to €43,510, compared to the old situation where all 83 DBPCFCs would have been performed in a hospital setting.

Conclusion: The study showed that More than two fourth of the study participants had good knowledge about danger signs during pregnancy and large number of participants had good practice. In addition, almost two over four of the studied pregnant mothers had positive attitude towards danger sign during pregnancy.

Keywords: Pregnancy, Psychological Changes, Child Birth

Introduction

Pregnancy is a normal process that results in a series of both physiological and psychological changes in expectant mothers. However, normal pregnancy may be accompanied by some problems and complications which are potentially life threatening to the mother and / or the fetus [1].

Health consequence after child birth the overwhelming majority of these complications occur in developing countries.

Each year in Africa, 18 million give birth at home without skilled care from a trained health professional as a consequence, every year over 250,000 African women die because of danger sign related to pregnancy and child birth, and four million African women have non-fatal complications of pregnancy.

In Ethiopia Maternal mortality is relatively high due to danger sign related to pregnancy that accounting 25% of all deaths related to women of 15-49 age this show that maternal mortality is related is low service of ANC that detect early danger sign.

The national reproductive strategy of Ethiopia has given emphasis to maternal and newborn health so as to reduce the high maternal and neonatal mortality. The strategy focuses on the need to empower women, men, families and communities to recognize pregnancy related risks, and to take responsibility for developing and implementing appropriate response to them. One of the targets in the strategies is to ensure that 80% of all families recognize at least three danger signs associated with pregnancy related complications by 2010 in areas where health extension program is fully implemented.

Approximately 358,000 woman die from pregnancy related danger sign annually and almost all (99%) of these Maternal deaths occurs in developing countries specifically in sub-Saharan Africa. globally, maternal deaths have both direct and indirect causes, around 80% of maternal death worldwide is brought about by direct obstetrics danger sign and its complication [2].

The top danger signs commonly manifested during pregnancy are severe vaginal bleeding, swollen hands/face and blurred vision. Key danger signs during labor and childbirth include severe vaginal bleeding, prolonged labor, convulsions, and retained placenta. Danger signs during the postpartum period include severe bleeding following childbirth, loss of consciousness after childbirth, and fever.

Determination of the knowledge level of Mother's about danger sign during pregnancy help, planner of Maternal health service delivering health institution to play a significant role in preventing or reducing the county's health problems.

Since it indicates the prioritization of danger signs of pregnancy and it intended to assess knowledge, attitude and practice of mothers on danger signs during pregnancy among mothers attending ANC at MalkaOdaHospital.

Methods

Facility based cross-sectional study was conducted Malka Oda hospital from March 11-June 20, 2019. This study was conducted in Shashamanne town West Arsi zone, Oromia Region, South East Ethiopia at Malka Oda Hospital. Shashamanne has a population size of 122046 (2012), Malka Oda Hospital is found in the town of Shashamanne which is 250 km away from the center of Addis Ababa [3].

This Hospital is established in 2004 E.C. In this hospital there are many departments some of them are adult OPD 1, OPD 2, OPD 3, chronic OPD 32, under five OPD, Emergency department, ANC, delivery, surgical, medical, obstetrics/gynecology and pediatrics department, TB clinic, and ART clinic.
Similarly, according to EDHS 2011 regional (Oromia) report, vaginal bleeding (22%), severe head ache (36%) and abdominal pain (48%). The difference in percentage may be due to sample size and duration of the study period.

Socio Demographic Characteristics

A total of two hundred eight study subjects were included in the study making a response rate of 100%. The minimum age of respondents was 15 and the maximum was 40 years. Eighty-eight (42.3%) of the respondents were aged 20-24 years. Concerning the religion of the respondents, Muslim is dominant 137 (65.86%) and followed by protestant 35 (16.8%). The majority of the respondents 89 (42.8%) were elementary school. About 46 (22.1%) respondents were secondary school.

Obstetric History

Regarding age of mother's at first pregnancy, 129(62%) were get pregnancy below 20 years old, 77(37.04%) between 20-29 years and two of them were after 30 years old [4].Concerning the history of gravidity, 125(60.1%) were reported gravida II-IV followed by gravida one, 48(23.1%). The rest, 35(16.8%) of them were above gravida five.

Regarding the parity, 79(38%) were had parity of II-IV, 56(26.9%) were had parity I and 55(26.4%) were nulliparous. One hundred fourteen (71.25%) had previous FNAC follow up, 112 (70.9%) had gave delivery in health institutions and 46 (29.1) have gave birth at home.

Seventy-three (35.1%) of the respondents get average Monthly income of greater than 1500 birr, Only 39 (18.75%) get monthly income less than 500 birr per Month

Discussion

In this study a total of 208 pregnant mothers were included and revealed that, 61.53% have poor knowledge and 38.46 % have good knowledge, 7.2% and 92.8% pregnant mothers were found that they have good and poor attitude towards danger signs during pregnancy respectively, and also majority 74.46% of pregnant mothers have good practice and only 22.6% did not have good practice.

Methodology

Facility based cross-sectional study was conducted Malka Oda hospital from March 11-June 20, 2019. This study was conducted in Shashamanne town West Arsi zone, Oromia Region, South East Ethiopia at Malka Oda Hospital. Shashamanne has a population size of 122046 (2012), Malka Oda Hospital is found in the town of Shashamanne which is 250 km away from the center of Addis Ababa. This Hospital is established in 2004 E.C. In this hospital there are many departments some of them are adult OPD 1, OPD 2, OPD 3, chronic OPD 32, under five OPD, Emergency department, ANC, delivery, surgical, medical, obstetrics/gynecology and pediatrics department, TB clinic, and ART clinic

[c] GGD GHOR Nederland is an association for public health and safety in the Netherlands. It is the umbrella organization of the 25 GGD (Municipal Health Service) and GHOR (Medical Aid Organization in the Region) offices. The main task as a national association is to collectively represent the interests of its members - the public health directors and the regional GGD and GHOR agencies - towards politics, (local) governments, cooperation partners, media and the public.

This meant that the participating YHC-organizations would only receive reimbursement for patients with a health insurance policy taken out with one of these insurance companies. We decided however not to exclude patients based on their health insurance company; all patients were eligible for a DBPCFC at the WBC without a personal financial contribution.

Operational Definition

Prolonged Labor: A labor with difficulties and above standard limited time duration.

Good Knowledge: If the clients answer correctly above mean value (>50%) of knowledge questions

Poor Knowledge: If the clients answer below mean value (<50%) 0f knowledge questions

Positive Attitude: If the clients respond above mean value to positively stated questions.

Good Practice: If the client responds above mean value to questions regarding practice.

Availability of personnel, facilities and resources at the WBC

Three YHC-physicians and two YHC-nurses were recruited at two WBC-locations selected as suitable locations for DBPCFC's. The YHC-nurse had the following tasks: an intake with standardized questions, preparation of the test feedings,

Table 1: Pregnant women attending focused antenatal care at Malka Oda hospital

Children with a higher risk of serious adverse events during the DBPCFC (see Table 3) are referred to the JBZ as before. Children without these risk factors (i.e. low risk children) are tested at specifically appointed WBC-locations. Other care professionals in the region (YHC-physicians of other WBC-locations, GPs and pediatricians of the JBZ) can refer children to these locations for a DBPCFC. The locations which perform the DBPCFC have one shared email address for referrals and consultation.
During office hours (between 8 am and 5 pm) the nurse of the WBC is the first contact person for parents. Parents receive a direct telephone number of the nurse. The YHC-physician is available for consultation when needed. Outside office hours (between 5 pm and 8 am the next morning) parents can contact the emergency department of the JBZ, where the pediatrician will assess the child if necessary. As a reference for the pediatrician parents receive a form on which the findings thus far have been noted.
The result of the DBPCFC is communicated to the GP, YHC-physician and, if concerned, the pediatrician. **Abbreviations:** DBPCFC, double-blind placebo-controlled food challenge; JBZ, Jeroen Bosch hospital; WBC, well-baby clinic; YHC, youth health care; GP, general practitioner.

Table 2: Antenatal care at Malka Oda hospital

Serious and life-threatening reactions after ingestion of or contact with cow's milk such as: - Anaphylactic reaction of Müller stage 3 or 4 - Respiratory symptoms such as asthmatic symptoms, inspiratory stridor, throat swelling, etc. - Collapse or shock - Severe gastrointestinal complaints during or shortly after ingestion
Symptoms other than described in the guideline
Angioedema
Asthma(-like) symptoms for which maintenance medication is used or regular use of bronchodilators is necessary
Severe therapy-resistant constitutional eczema (TIS-score ≥6)
Children older than one year at initial diagnosis
Infants receiving an amino acid-based formula*
Abbreviations: DBPCFC, double-blind placebo-controlled food challenge; TIS-score, three-item severity score [3].
* Amino acid-based formula is only prescribed in the hospital, according to the multidisciplinary guideline 'Diagnosis of Cow's Milk Allergy in Children in the Netherlands' (Sprikkelman, et al. 2012). Therefore, these children remain under the care of a pediatrician but are not necessarily at higher risk of serious adverse events during DBPCFC.

Administration of the test feedings according to the guideline, identifying possible allergic reactions and instruction of parents for registration of possible allergic reactions at home. The nurse remained in the direct vicinity of the child during the entire test and observation period. The YHC-physician had the following tasks: performing physical examination prior to the test and after the observation period, assessing whether food challenge can take place for the child in question, assessing any possible allergic reactions, treatment of allergic reactions when necessary, and deciding to stop or continue the challenge when reactions occur. The YHC-physician was immediately available for consultation or action throughout the test. In order to treat allergic reactions when necessary, adrenalin auto-injectors (0,15 mg/dose) and desloratadine syrup (0,5 mg/ml) were present at the WBC-locations.

Education of staff members at the WBC

The YHC-physicians and YHC-nurses performing the DBPCFCs attended the lecture mentioned above. They were further instructed by the staff of the JBZ and observed food challenges performed there. The physician assistant of the JBZ (HD) was present during the first DBPCFCs performed at the WBC. During the following DBPCFCs the staff of the JBZ was available for consultation by phone. Also, a number of evaluation meetings between the staff of the WBC and JBZ were held.

Knowledge transfer to GPs

All GPs in the catchment area of the JBZ were invited to the lecture on CMA mentioned above, but only two attended. Additionally, all GPs in the area received information on the DBPCFCs performed at the WBCs through the regular GP-newsletter of the JBZ in April 2016.

Collection and storage of data

Patient data were recorded in Kidos, the electronic patient file of the GGD HvB. The privacy and storage period of this data was regulated at that time by the *Wet bescherming persoonsgegevens (Wbp*, a national law for the protection of personal information, now replaced by the European General Data Protection Regulation) and the *Wet op de geneeskundige behandelingsovereenkomst* (WGBO, a national law defining the rights and obligations of patients).

Data collected for part B of the study concerned age, gender, presenting symptoms, type of cow's milk free diet, the course of the provocation (including end-result and any adverse events) and follow-up one month after the DBPCFC. For comparison, similar data were collected on the DBPCFCs performed in the JBZ in the same time period. The data were extracted from the patient files and stored in an electronic Case Record Form (Research Manager®, Cloud9 software). The data were encrypted and patients were indicated with a study number. Only the principal investigator Prof. de Vries and the treating physician (assistant) were authorized to trace the code to the individual patient.

Statistical analysis

The data were initially analyzed using descriptive statistical methods, followed by univariate non-parametric techniques (Fisher's exact and Chi-squared test).

Results

The first 50 DBPCFCs in low-risk children aged <1 year were performed at the WBC between March 21, 2016 and July 3, 2017. 65 children fulfilled the inclusion criteria during this period, 9 children were excluded from the study because of lack of informed consent, and an additional 6 children were excluded from the analysis because they were tested with a provocation test kit other than Nutramigen®. In 3 children the DBPCFC was initially not completed, due to an intercurrent infection obscuring the result of the test; 2 of these children completed the DBPCFC at a later stage. In the same time period, 33 DBPCFCs in children aged <1 year were performed at the JBZ. The results of the total 83 DBPCFCs performed are shown in Table 3.

The 50 children tested at the WBC were referred by YHC-physicians (90%) and pediatricians (10%). There were no referrals from GPs to the WBCs. In line with the methods of the study, all DBPCFCs performed at the WBCs were low-risk. However, of the DBPCFCs performed at the JBZ, 76% were also low-risk. These were either children residing in municipalities outside the catchment area of the GGD HvB region's-Hertogenbosch, or children that were tested with a test kit that was not available at the WBCs at that time.

The diagnosis of CMA was confirmed in 34% of the children tested at the WBC and in 45% of the children tested at the JBZ. The rate of successful reintroduction one month after a negative DBPCFC ranged between 56% (JBZ) and 61% (WBC). Both differences were not statistically significant. Only one child (2%) tested at the WBC experienced an allergic reaction for which medication (desloratadine) was needed, compared to 21% of the children tested at the JBZ ($p = 0.0058$).

The parents of one child tested at the WBC contacted the pediatrician outside office hours (2%). The symptoms of this child were interpreted by the pediatrician as due to an intercurrent infection unrelated to the DBPCFC. The parents of 2 children (6%) tested at the JBZ contacted the pediatrician outside office hours (no significant difference).

Organizational aspects

Funding structure

In 32 of the 50 (64%) performed DBPCFCs at the WBCs the child had a health policy taken out with a contracted health insurance company and thus costs could be claimed by the GGD HvB. In 2017, the GGD HvB received a maximum of €726.15 for each chargeable DBPCFC, the rate set by The Dutch Healthcare Authority [4]. In comparison: the maximum rate for a DBPCFC performed at the JBZ in 2017 was €1,596.35 [5].

The national reproductive strategy of Ethiopia has given emphasis to maternal and newborn health so as to reduce the high maternal and neonatal mortality.

The strategy focuses on the need to empower women, men, families and communities to recognize pregnancy related risks, and to take responsibility for developing and implementing appropriate response to them. One of the targets

Table 1: Socio-demographic characteristics of pregnant women attending focused antenatal care at Malka Oda hospital from March 11 to June 20, 2019.

Socio-Demographic Variables	Frequency	Percentage
Age in years		
15-19	20	9.6
20-24	88	42.3
25-29	76	36.54
30-34	18	7.7
>35		
Religion		
Muslim	6	2.88
Protestant	137	65.86
Orthodox	35	14.9
Adventist	31	16.8
Catholic	3	1.4
Residence	197	94.71
Urban	11	5.29
Rural		
Marital status		
Single	0	-
Married	206	99.04
Divorced	2	0.96
Income		
<500	39	18.75
501-1000	61	29.32
1001-1500	35	16.82
>1500	73	35.1

Logistics

The result of this study was presented to Madda Walabu University CBE office. On the top of this, efforts were made to publish the findings on local, or national or international peer reviewed journals.[3]

Pregnancy is a normal process that results in a series of both physiological and psychological changes in expectant mothers. However, normal pregnancy may be accompanied by some problems and complications which are potentially life threatening to the mother and / or the fetus.

Training

Every year, the WHO estimates that, worldwide around 35, 8000 die from complications of pregnancy and child birth and the 99% of them are in developing country's at least 7 million who survive child birth suffer serious long term health problems and a further 50 million women suffer some adverse health consequence after child birth the overwhelming majority of these complications occur in developing countries.

Each year in Africa, 18 million give birth at home without skilled care from a trained [5] health professional as a consequence, every year over 250,000 African women die because of danger sign related to pregnancy and child birth, and four million African women have non-fatal complications of pregnancy. There was a low threshold for the YHC-staff to consult the JBZ-staff for this. Also, periodicevaluation meetings between the WBC and JBZ added to the knowledge and experience of the YHC-staff.

Discussion

The top danger signs commonly manifested during pregnancy are severe vaginal bleeding, swollen hands/face and blurred vision. Key danger signs during labor and childbirth include severe vaginal bleeding, prolonged labor, convulsions, and retained placenta. Danger signs during the postpartum period include severe bleeding following childbirth, loss of consciousness after childbirth, and fever.

Determination of the knowledge level of Mother's about danger sign during pregnancy help planner of Maternal health service delivering health institution to play a significant role in preventing or reducing the county's health problems,

It is increasingly recognised that healthcare practitioners, patients, the health service and the economy can benefit from improvements in patient care for chronic diseases. We have shown that large scale, collaborative QI programmes can have clear measurable benefits with little impact on workload. Following a decade of refinement of our chronic disease QI model, we have learnt that working alongside primary care clinicians to integrate automated, non-resource-intensive programmers that involve both clinic staff and patients can be a highly effective means to promote a long term culture of QI.

A total of two hundred eight study subjects were included in the study making a response rate of 100%. The minimum age of respondents was 15 and the maximum was 40 years. Eighty-eight (42.3%) of the respondents were aged 20-24 years. Concerning the religion of the respondents, Muslim is dominant 137 (65.86%) and followed by protestant 35 (16.8%).

The majority of the respondents 89 (42.8%) were elementary school. About 46 (22.1%) respondents were secondary school. 206 (99.04) of respondents' were married and 2 (0.960) were divorced. We are currently conducting follow-up research regarding the effects of the implementation of DBPCFCs in the WBCs, to assess whether this is leading to better health care for children with suspected CMA as expected by the National Health Care Institute: are the less reliable open oral food challenges being replaced by the use of the DBPCFC, and is there a decrease in unnecessary elimination diets? If this is indeed the case, it would further strengthen the new policy.

Conclusion

It is increasingly recognised that healthcare practitioners, patients, the health service and the economy can benefit from improvements in patient care for chronic diseases. We have shown that large scale, collaborative QI programmes can have clear measurable benefits with little impact on workload. Following a decade of refinement of our chronic disease QI model, we have learnt that working alongside primary care clinicians to integrate automated, non-resource-intensive programmes that involve both clinic staff and patients can be a highly effective means to promote a long term culture of QI. and is currently being conducted.

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Conflicting interests

There are no conflicting interests.

References

1. Becherucci F, Roperto RM, Materassi M, Romagnani P. Chronic kidney disease in children. Clin Kidney J 2016; 9: 583-591.
2. Vasudevan A, Phadke K, Yap HK. Peritoneal dialysis for the management of pediatric patients with acute kidney injury. Pediatr Nephrol 2017; 32: 1145–1156.
3. Fraser N, Hussain F, Connell R, Shenoy M. Chronic peritoneal dialysis in children. Int J Nephrol Renovasc Dis 2015; 8: 125-137.
4. Borzych-Duzalka D, Aki TF, Azocar M, White C, Harvey E. International Pediatric Peritoneal Dialysis Network (IPPN) Registry. Peritoneal Dialysis Access Revision in Children: Causes, Interventions, and Outcomes. Clin J Am Soc Nephrol 2017; 12 : 105-112.
5. Vasudevan A, Phadke K, Ya HK. Peritoneal dialysis for the management of pediatric patients with acute kidney injury. Pediatr Nephrol 2017; 32 :1145–1156.

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