

EFFORT FOR UTILIZATION ANTENATAL CARE (ANC) IN PREGNANT WOMEN: systematic literature review

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Abstract

Optimal utilization of ANC services is associated with mortality and morbidity reduction for mothers and newborns. The majority of women delay until the second trimester to make antenatal visits according to WHO recommendations and only 75% of pregnant women do at least 4 pregnancy check-ups at health services including Indonesia which only reached 83.5%. The aim of this study was to identify efforts that can improve the utilization of ANC services in pregnant women and influencing factors of utilization of ANC services in pregnant women. Systematic Literature Review used 3 databases source namely PubMed, ScienceDirect and Proquest. The total number of reviews was 14 literatures from 1382. Selected articles were from the year of 2009-2018, quantitative study, and using population of women of reproductive age. Among 14 articles review, it was found on 7 articles explaining efforts to improve utilization of ANC in pregnant women by laboratory testing, service provider compliance with ANC guidelines, counseling and health education, ongoing care, good interpersonal relationships, availability of health facilities and socio-economic and demographic support. 11 articles presented factors that influence the utilization of ANC services in pregnant women, namely education, mothers living in the core family, distance to health facilities, parity, media exposure, quality and ANC service providers, ANC visits, autonomy, age, health status and costs. The highest effort influencing the increase of ANC utilization was compliance with service providers against guidelines for ANC visits. Among 11 factors that influence ANC service utilization was a service user education.

Keywords: Effort, Utilization, antenatal

1. INTRODUCTION

Women who receive early ANC examinations are far more likely to receive WHO-recommended services and when the first ANC examination has an effect on the care provided for pregnant women. Although it is very important that skilled and adequate service providers will be able to provide care in accordance with WHO recommendations and also motivate women to make early ANC visits early is another mechanism in which the quality of care provided will increase [1]. But the majority of women delay until the second trimester to make antenatal visits despite WHO recommendations for developing countries that a woman must get antenatal care starting in the first trimester of pregnancy. Data from the Neupane & Doku (2012) study in Nepal showed that 45% of pregnant women begin ANC visits after 3 months of gestation and 28% of pregnant women do not undergo an examination. [2]. Pregnancy, birth and postpartum periods have a greater potential risk for maternal mortality and morbidity and significant risks to the fetus and newborn. The use of poor maternal health services such as maternal perceptions as much as 49.9% disputes the distance to health facilities, 41.3% of mothers feel that providers are unable to solve complications, 52.3% of facilities are inadequate and

88% of mothers only visit once during pregnancy. This contributes to the high maternal and newborn mortality rates [3]. Provision of services and utilization of services are often considered separately from each other, this provides a fragmented picture of the effectiveness of interventions in the health system. Improving maternal and newborn health will require a country to measure and link the use of ANC services, informing improved access and quality of ANC services [4]. Most maternal deaths can be prevented by accessing antenatal care during pregnancy. In addition there are also factors that can prevent women from receiving or seeking treatment during pregnancy and childbirth are poverty, distance, lack of information, inadequate services and cultural practices. To improve maternal health, relationships that limit the use of quality maternal health services must be identified and addressed at all levels of the health system. The optimal use of ANC services is associated with a reduction in mortality and morbidity for mothers and newborns because ANC services are one of the interventions to improve the health of pregnant women. Utilization of ANC services by pregnant women from several countries is still low, this can be seen from the coverage of the visit described above, only 75% of pregnant women make at least 4 visits during pregnancy. Based on the problems obtained, the author was moved to explore efforts to improve the utilization of ANC services for pregnant women.

2. METHODS

The preparation of the Systematic Literature Review is adapted to the steps of the Systematic Literature Review listed in the guidebook prepared by the lecturer team of the University of Aisyiyah Yogyakarta. The steps for preparing a systematic literature review are 1) identification of problems, 2) prioritizing problems and questions, 3) using framework, 4) literature searching using databases: pubmed, sciencedirect and Proquest, 5) selection of papers based on inclusion and exclusion criteria, 6) do critical appraisal, 7) extract data from the selected paper, 8) collect data and make maps to answer questions. This systematic literature review specifically wants to identify: the efforts that can improve the use of ANC services in pregnant women and influencing factor that use of ANC services in pregnant women. The framework used is PICOC (Population, Intervention, Comparison, Outcome, Context).

Element	Inclusion	Exclusion
Population	Women of reproductive age	Women do not have children at all, unmarried women, women who do not have a pregnancy at all, women who get complications during pregnancy
Intervention	a. Without intervention b. For each intervention intended to improve the use of quality ANC services by mothers during Pregnancy	
Comparison	Antenatal care service	
Outcomes	Increased use of antenatal care services by mothers during pregnancy	
Context	All countries	Countries with conflict, for example: Palestine etc.

There are several stages in the search for papers / articles that will be used. First looking for papers in general in several databases (pubmed, sciencedirect and Proquest), the keywords used to search for papers in pubmed are ("antenatal care" OR "prenatal care") AND ("the use" OR "utilization") AND (strategies OR intervention OR effort), reliable keyword used is AND ("prenatal care") AND (quality OR "quality of antenatal care" OR "quality of prenatal care") AND ("the use"

OR utilization) AND (strategies OR intervention OR effort OR factor) while proquest the keyword used is ("antenatal care" OR "prenatal care") AND (quality OR "quality of antenatal care" OR "quality of prenatal care") AND ("the use "OR utilization) AND (strategies OR intervention OR effort OR factor). Secondly, after obtaining the keywords then looking for papers in the Pubmed, Science Direct and Proquest databases. Search is limited to papers published in the last 10 years, using English, quantitative studies and no specific country criteria to be addressed, not limited to the type of article. In the search for 2 databases and reference lists, the number of articles was 1,422, then several double / duplicate articles were deleted so that 1,236 articles were obtained. Of the 1,382 articles, screening was carried out based on the title / abstract related to the topic, 99 articles were obtained. The full text search of the 24 articles that were identified was done for filtering the contents of the article. From the result of article screening, population appropriation, method and result, and result, and critical appraisal it was obtained 14 articles which was used to Systematic Literature Review.

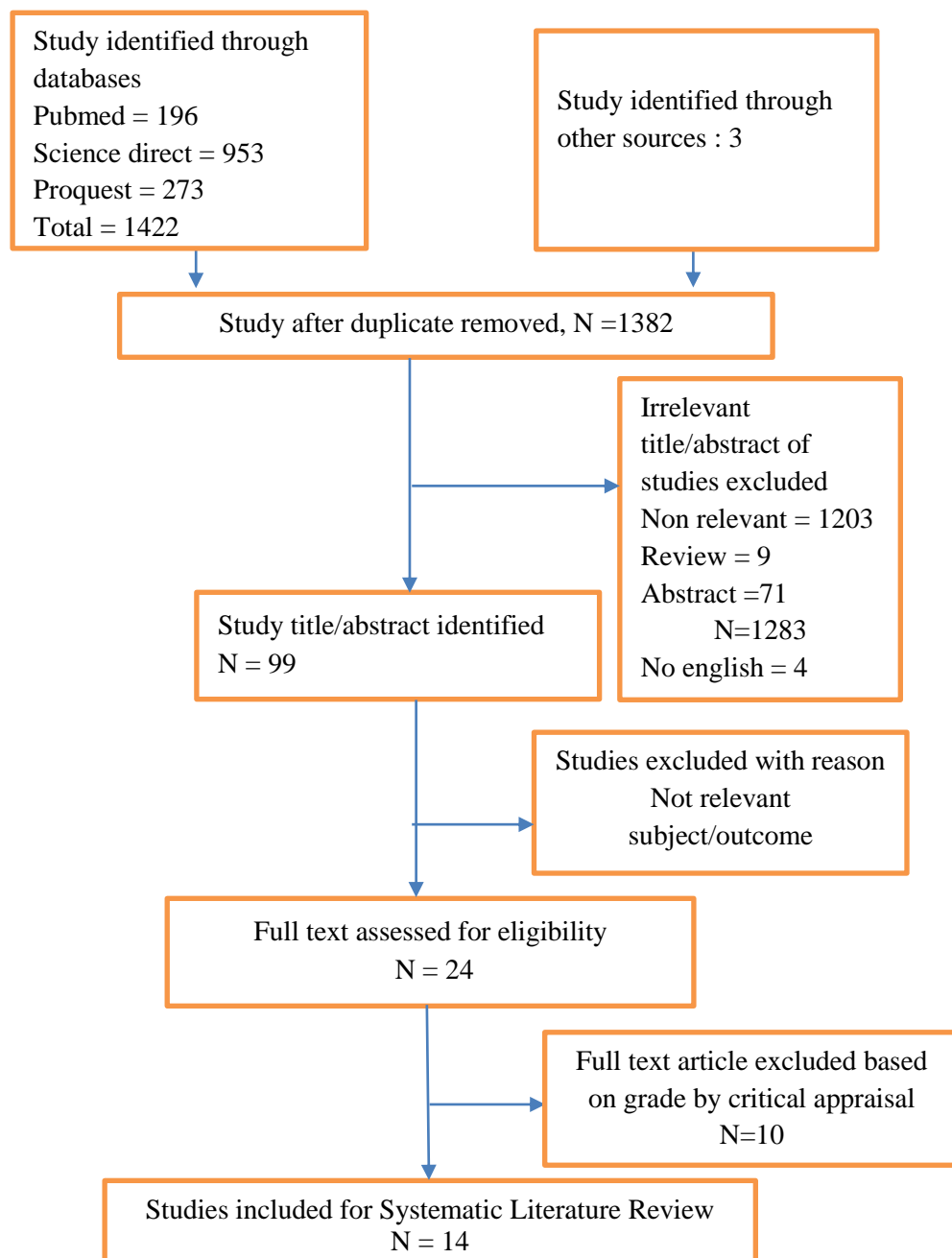


Figure 1. PRISMA Flow Chart

Table 2. Data Extraction

Title / author / year / level	Country	Aim	Method	Data collection	Participants / number of samples	Results
Antenatal care strengthening for improved quality of care in Jimma, Ethiopia: an effectiveness study/2015/Villadsen, Sarah Fredsted Negussie, Dereje Gebremariam, Abebe Tilahun, Abebech Friis, Henrik Rasch, Vibeke/Q1	Ethiopia	The aim of this study was to design participatory antenatal care interventions (ANC) and assess the implementation process and effectiveness on the quality of ANC in Jimma, Ethiopia	Quantitative (kohort study)	Questionnaire, carried out before and after intervention	woman who had given birth within 12 months before the survey was conducted. The total sample is 2,275 and 1357 control groups	There are positive effects from the following interventions on the quality of ANC services: a. Health education about danger signs during pregnancy pengujian laboratorium (untuk tes darah lainnyadari HIV), b. identification of health problems, and c. satisfaction with service
Utilization of Antenatal Care Services in Dalit Communities in Gorkha, Nepal: A Cross-Sectional Study/2018/ Awasthi, Mamata Sherpa Awasthi, Kiran Raj Thapa, Harish Singh Saud, Bhuvan Pradhan, Sarita Khatry, Roshani Agrawal/Q2	Nepal	The purpose of this study was to ensure the utilization of antenatal care services in terms of ANC visits with health workers, accept iron tablet recommendations, consume antihelminthes and the number of Tetanus Toxoid (TT) immunizations	Quantitative (cross-sectional)	Questionnaire	reproductive age women (15-49 years) have at least one child up to the age of three.Number of samples 150.	Factors affecting the use of ANC services (presence of visits, consumption of iron tablets, reception of antihelminthes, and receipt of TT immunization): a. educational status b. Mother of the nuclear family
Determinants of access to antenatal care and birth outcomes in Kumasi, Ghana/2013/ Asundep, N. Ntui Carson, April P. Turpin, Cornelius Archer Tameru, Berhanu Agidi, Ada T. Zhang, Kui Jolly, Pauline E./Q3	Ghana	The purpose of this study is to investigate the factors that influence the use of ANC services in pregnant women in Kumasi and determine whether the factor is associated with poor pregnancy outcomes	Quantitative (cross-sectional)	Questionnaire	women aged 19 to 48 years who came to give birth in selected public hospitals and traditional birth attendants from July to November 2011. Number of samples 643.	a. Determinant of the presence of ANC's that influence / inhibit is age, level of education, costs and fear of knowing HIV b. Barriers to the presence of ANC's that have a negative impact on pregnancy are influenced by: age, education level, marital status, costs and distance.
Health-related quality of life determinants among Rwandan women after	Rwandan	The purpose of this study was to determine whether the utilization of adequate antenatal care was	Quantitative (cross-sectional)	Questionnaire	women who give birth 1–13 months before data	a. Adequate use of ANC affects HQRoL b. Better economic and

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delivery: does antenatal care utilization matter? A cross-sectional study/ 2018/ Hitimana, Regis Lindholm, Lars Krantz, Gunilla Nzayirambaho, Manasse Condo, Jeanine Sengoma, Jean Paul Semasaka Pulkki-Brännström, Anni- Maria/Q1		positively related to women's health-related quality of life (HRQoL)			collection. Sample number 922.	demographic support will affect HQRoL c. The influence of education will also affect women's HQRoL
Determinants of frequency and contents of antenatal care visits in Bangladesh: Assessing the extent of compliance with the WHO recommendation/2018/ Islam, M. Mazharul Masud, Mohammad Shahed/Q1	Bangladesh	The purpose of this study is to determine the factors that influence the use of ANC visits and the ANC visit in Bangladesh	Quantitative (cross- sectional)	Questionnaire	a woman who had been married, aged 15 ± 49 years who gave birth in the previous three years surveyed. Amount of 17,863.	Factors that influence the use of ANC visits: a. Mother's education b. Economic status c. Parityd d. Media exposuree e. Residencef f. Husband's educationg g. ANC providers and service locations
Inequities in utilization of prenatal care: a population-based study in the Canadian province of Manitoba/2018/Heaman, Maureen I. Martens, Patricia J. Brownell, Marni D. Chartier, Mariette J. Thiessen, Kellie R. Derksen, Shelley A. Helewa, Michael E/Q1	Canadian	The aim of this study was to describe the use of prenatal care among women who gave birth in Manitoba, and to determine the individual level factors associated with inadequate prenatal care.	Quantitative (retrospecti- ve cohort)	data from the administrative database available at ManitobaRepository Population Research Data (hereinafter referred to as the Repository) located at the MCHP at the University of Manitoba.	women gave birth in Manitoba from 2004 / 05-2008 / 09. The number of samples was 70,612.	Factors associated with inadequate prenatal care: a. Residence b. Mother's age c. Single parentd d. Parity> 4 e. Intervals between pregnancies are closef f. Medical conditions during pregnancy g. The environment is just right h. Educationi i. Socialj j. Drug, alcohol and smoking use while pregnant

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Distance from health facility and mothers' perception of quality related to skilled delivery service utilization in northern Ethiopia/2017/Fisseha, Girmatsion Berhane, Yemane Worku, Alemayehu Terefe, Wondwossen/Q1	Ethiopia	The purpose of this study was to assess the factors associated with the utilization of services from skilled workers in the northern regions of rural Ethiopia	Quantitative (cross-sectional)	Questionnaire(data collected through surveys guided by interviewers)	mothers giving birth in 12 months before the study period, from January to February 2015. Number of samples: 1,796.	Factors that affect the use of services with skilled personnel: a. Distance to health facilities b. Mother's perception of the availability of adequate services c. Use of ANC services d. Have an educated partnere e. Complications during delivery
Provider adherence to first antenatal care guidelines and risk of pregnancy complications in public sector facilities: a Ghanaian cohort study/2016/ Amoakoh-Coleman, Mary Klipstein-Grobusch, Kerstin Agyepong, Irene Akua Kayode, Gbenga A Grobbee, Diederick E Ansah, Evelyn K/Q1	Ghanaian	The aim of this study was to determine the effect of service provider compliance on the first antenatal visit guidelines about the risk of maternal and newborn complications in low resource settings	Quantitative (Cohort study)	a. Their first antenatal visit record is reviewed to assess provider compliance with the guidelines, using a checklist of thirteen points. b. Information about their socio-demographic characteristics and previous pregnancy history was collected c. Participants were followed up for 6 weeks post-partum to complete data collection as a result	A total of 946 women were recruited and 926 of them were followed up for up to 6 weeks after parturition from December 2013 to May 2014	Service provider compliance with the first antenatal visit guidelines will affect labor and neonatal care.
Predictors of women's utilization of primary health care for skilled pregnancy care in rural Nigeria/2018/ Okonofua, Friday Ntoimo, Lorretta Ogungbangbe, Julius	Nigeria	The purpose of this study is to identify the factors that cause pregnant women to use or not use primary health care facilities for antenatal care and childbirth	Quantitative (cross-sectional)	Questionnaire	Women aged 15-45 years, have been married, are currently pregnant or have given birth 5 years before the	The reasons for not using PHC: a. Perception of distance to PHC b. Cost c. Quality of PHC services d. Autonomy

Anjorin, Seun Imongan, Wilson/Q1 Yaya, Sanni					survey. Number of samples: 1408.	
Predictors of Antenatal Care, Skilled Birth Attendance, and Postnatal Care Utilization among the Remote and Poorest Rural Communities of Zambia: A Multilevel Analysis/2017/ Jacobs, Choolwe Moshabela, Mosa Maswenyeho, Sitali Lambo, Nildah Michelo, Charles/Q2	Zambia	The aim of this study was to examine patterns and predictors of using three indicators of maternal health care services among mothers living in remote rural and remote Zambia populations	Quantitative (cross-sectional)	Questionnaire	A total of 551 mothers had children between the ages of 0 and 5 months	<ul style="list-style-type: none"> a. ANC predictors: the ability of mothers to take HIV tests, receive lab results, receive IPTp2 for malaria and age b. Predictor INC: has received at least one ANC by skilled workers during pregnancy c. PNC Predictors: at least have received ANC services provided by skilled workers and tested for HIV.
Quality of antenatal care services and completion of four or more antenatal care visits in Ethiopia: a finding based on a demographic and health survey/2017/ Muchie, K. F /Q1	Ethiopia	This study aims to examine the level of individuals, households and potential determinants to complete the recommended visit in the Ethiopian country	Quantitative(cross-sectional survey study))	Ethopian Mini Demographic and Health Survey (EMDHS) data	women aged 15-49 years who had given birth within 5 years before the survey. Number of samples: 3694.	<ul style="list-style-type: none"> a. Strategy to encourage settlementrecommended visits should focus on improving the quality of care services at the community level b. Low womaneeconomic level, high birth order, rural residence, and low education status will influence recommended ANC visits.
Utilization of Quality Source of Prenatal-Care in India: An Evidence from IDHS/2017/ Ejaz, Rana Khan, Ali Muhammad, Raza, Ali Raza, Muhammad Ali/Q1	India	The core objective of this study is to examine socio-economic factors as determinants of the quality of prenatal care by Indian women	Quantitative(cross-sectional study)	Data on Indian Demographic Health Survey 2006	Women of reproductive age (15–49 years) who have given birth in the last 5 years for a survey. Sample: 25,896 women	<p>Increasing the use of prenatal service quality resources:</p> <ul style="list-style-type: none"> a. the age of women at first marriage and husbandhood has shown a positive impact on the possibility of utilizing quality care before delivery b. socioeconomic (female education, husband's education, husband's employment status, the last word for women in health

						care by women and husbands collectively and husband only, household wealth index and female sex of the head of the household)
						c. health characteristics (ever ending a pregnancy, a household covered by the presence of insurance and a husband during a prenatal visit)
Determinants of antenatal care attendance among women residing in highly disadvantaged communities in northern Jordan: a cross-sectional study/2018/ Hijazi, Heba H Alyahya, Mohammad S Sindiani, Amer M Saqan, Rola S Okour, Abdulhakeem M/Q1	northern Jordan	This study aims to ascertain the extent to which ANC visits can be attributed to individual determinants or the quality of services received	Quantitative(cross-sectional study)	Structured interviews	Women aged 15-49 years. Number of samples: 831 women	a. utilization of ANC facilities is influenced by the quality of ANC services b. health education and information provision, appointment appointments and continuing care, women's interpersonal relationships and health staff, availability of health facilities, all of which will affect the quality of ANC services which will lead to increased utilization of ANC services.
Quality of Antenatal care services in eastern Uganda: implications for interventions/2012/ Tetui, Moses Ekirapa-Kiracho, Elizabeth Bua, John Mutebi, Aloysuis Tweheyo, Raymond Waiswa, Peter/Q3	eastern Uganda	This study aims to assess the quality of ANC services in eastern Uganda with the aim of comparing the implications for intervention	Quantitative (cross-sectional)	Structured interviews	Women present in the ANC service number 291.	To improve ANC quality: a. improving infection control facilities and providing complete ANC b. services mainly related to essential tests increasing supply of medicines c. better counseling

3. RESULTS AND DISCUSSION

Efforts to increase utilization of ANC services for pregnant women

Laboratory testing was carried out at ANC visits, and accuracy in identifying health problems

Efforts to increase utilization of ANC services (physical examination, laboratory testing, tetanus toxoid immunization (TT), health education, health professional behavior, and waiting time) are defined as the result of improved service quality among health care providers. This shows that the intervention in this study has succeeded in increasing the scope of laboratory tests and health education as well as having an impact on identifying health problems and overall satisfaction has also increased [5]. The results of a study conducted by Hijazi et al (2018) in relation to the accuracy in identifying diagnoses showed that pregnant women who used ANC services adequately and significantly higher among those who received services according to appropriate procedures and diagnoses were clearly explained by providers. service (73.2%).[6]. Diagnostic procedures that are not less important are about screening and laboratory procedures such as routine blood tests, RhD testing or different laboratory tests screening for diseases such as diabetes, anemia or infection [7]. The majority of these additional laboratory tests are carried out in high-risk pregnant women [8]. In terms of the quality of ANC services, it can also be sought from patient satisfaction in receiving ANC services in Nigeria by increasing responsiveness to clients, quality of clinical care, ensuring availability of equipment, optimizing easy access such as drugs, and expanding free ANC [9]. District health teams must work with facility managers to ensure availability and use of facilities and infection control [10]. The next effort to improve the use of ANC ministers is from the accuracy in identifying problems also from screening for pregnant women, therefore laboratory tests become an integral part of quality ANC in identifying maternal conditions that can endanger the mother and the health of her fetus [11]). This will result in women being satisfied with the quality of the antenatal care they receive and will recommend facilities for friends and also be willing to use the same facilities in the next pregnancy [12].

Service provider compliance with ANC visit guidelines

Subsequent efforts relate to service providers, namely service provider compliance in Ghana that will affect neonatal and maternal complications [13]. Pregnant women in completing ANC visits recommended by WHO can be influenced by lower levels of education, lower economic conditions, parity, and living in rural areas [14]. Pregnant women also sometimes receive only one item or two items or three items showing a downward trend with an increase in the number of ANC visits [15]. In the study of Villadsen et al (2015) to improve utilization of ANC services could be from blood tests and problems identified [5]. Compliance with antenatal visit guidelines is used as a proxy for service provider compliance with guidelines in general for pregnant women [13], it must be considered must be for the economic level, high parity, rural residence and low education status [14]. Output indicators should not be limited to the scope of some routine services and include indicators of client welfare and responses to basic findings and assessments such as history and physical examination [16]. Women with at least four visits were more likely to be given better quality than those who had less than four visits [17]. The majority of women who receive recommended ANC care have a normal delivery compared to women who do not receive recommended ANC treatment [18].

Good counseling, health education and information giving

Efforts to improve the utilization of ANC servants for pregnant women from the results of research conducted in North Jordan, namely by providing information and counseling, repeat visits and ongoing care, good interpersonal relationships between women and health staff, will all affect service quality ANC which will increase the use of ANC services [6]. Women's exposure to information, education, and advice about ANC during ANC visits had a positive relationship with the presence of ANC (OR = 9.12; 95% CI = 4.91-16.92). Compared to mothers with limited understanding of provider explanations for problems related to diagnosis and procedure, the likelihood of adequate service utilization increased by 2.38 for those who often received clear explanations (95% CI = 1.22-4.66) [6]. Likewise in a cohort study conducted in Ethiopia for pregnant women who were given health education about danger signs, the coverage of visits would increase from 35% to 43% in control locations, while in health centers interventions increased from 38% to 65 % and yield OR 3.9 (95% CI: 2.6; 5.7) [5]. The results of the research from Litalatur are in line with the research of Tafere et al (2018) which states that if women receive quality ANC services, there is a tendency to be informed and they will have better knowledge and information about the benefits of accessing maternal health care services [19]. training of health workers, assessment of workload and recruitment of health workers are more recommended as a way to ensure the provision of a quality ANC consultation process with satisfying history-taking and counseling sessions [10]. The quality and quantity of good information with education is given to improve pregnancy outcomes [20]. The interaction between midwives and pregnant women when the ANC service took place also greatly affected the performance of the midwife herself in giving ANC services [21].

Continuous upbringing

The highest percentage of adequate ANC utilization was among women who often had scheduled follow-up appointments by health workers (86.6%), and those who reported that they were encouraged by providers to return visits (70.8%)(6). Our analysis also showed that utilization of adequate ANC services increased by 3.65 (95% CI = 1.61-8.28) and 6.51 (95% CI = 3.52-12.01) for women who sometimes and often have regular follow-up appointments scheduled by health care providers, respectively [6]. The quality of antenatal care is measured by the level of essential antenatal care provided to pregnant women during the 1st to 4th ANC visit in connection with the Focused Antenatal Care (FANC) protocol recommended by WHO [19]. Women who attend antenatal visits in their previous pregnancies will think it is beneficial to start ANC early in their pregnancy and will choose to attend until the third trimester in their next experience [22]. Studies conducted in rural Ghana show that the use of ANC services can also be seen from pregnant women in accessing diagnostic services from ANC attendance and ongoing visit compliance. Providers use 'Bliss4Midwives' / B4M (screening for non-invasive pre-eclampsia, gestational diabetes and anemia) to increase utilization in order for pregnant women to continue to repeat visits and increase their involvement and trust in health workers [23]. Continuous care is very important to ensure the implementation of FANC services. In Ghana Health Service (GHS) continuous care contributes to the implementation of FANC, while FANC itself contributes to the quality of ANC and improves the health status of pregnant women in Ghana [24].

Women's interpersonal relationships with good officers

A good interpersonal relationship between pregnant women and health staff is an effort that can increase the utilization of health services in pregnant women as shown by the results of research that women with good interpersonal relations with staff through frequent dialogue when

receiving pregnancy care will further enhance the use of ANC services 7.22 times more than women who rarely have dialogues with health staff [6]. Women who often receive friendly service from health care providers are 5.68 times more likely to use ANC adequately compared to those who rarely have positive communication with providers (95% CI = 2.45–13.13) [6]. Providing services to women with friendliness and having good interpersonal relationships with them will be the main means of increasing the use of ANC services to them to come to the ANC service center to receive care. It is also very important for health care providers to ensure an effective approach by giving women opportunities to be heard and to encourage free discussion on their physical and psychological well-being [6].

Availability of health facilities

Research conducted in North Jordan also shows that accessibility to ANC service facilities can also increase the utilization of ANC services [6]. Based on research by Hitiman et al (2018) Women who use and obtain adequate ANC services will have HRQoL 3.5 times better than women who use and obtain inadequate ANC services [25]. Likewise, a study conducted by Islam & Masud (2018) also documented ANC service providers and where ANC visits were a strong significant predictor of both acceptance of ANC service elements and the frequency of ANC visits. Opportunities for frequency of ANC visits and receiving ANC service items were also found to be higher among mothers who visited NGO health facilities (non-governmental organizations). Mothers from urban areas are likely 1.4 times more likely to receive ANC service items than their rural counterparts [15]. A similar study examined the quality of services and their use for mothers and neonates in the country of Uganda [26]. Therefore, it is explained that quality, effectiveness, efficiency, accessibility and feasibility of health services depend mainly on the performance of health workers who provide them, staff must be oriented towards various aspects of maternal and newborn care and about the importance of providing standards needed for care [26]. Skills obtained from ANC providers will influence the quality of ANC offered [17]

Socio-economic and demographic support

Furthermore, in an effort to improve the utilization of ANC services for pregnant women, namely by the existence of socio-economic and demographic support [25]. The results in a study conducted by Khan & Raza (2017) show that the presence of a husband during prenatal visit increases the likelihood of utilizing sources of quality prenatal care [27]. Utilization of ANC services is also associated with ANC visits, according to Muchie (2017) a woman will be able to complete ANC visits 4 times influenced by residence and economy [14]. It was also explained in research conducted in Rwanda that this effect continues even after controlling for the influence of sociodemography and socio-economics, besides as explained by Hitimana et al (2018) in shaping the utilization of maternal health services [28]. Husband's support with his involvement in assisting pregnant women during ANC treatment also has an impact on the psychic of the pregnant woman herself. As the study conducted by Miltenburg et al (2017) states that if pregnant women who come without their husbands during ANC care then have to wait in advance, and pregnant women accompanied by partners have priority first [16]. Other studies are also in line which state that husband support is considered important for women during pregnancy and childbirth [21].

Factors that influence the utilization of ANC services in pregnant women**Educational status of users of ANC services**

Factors that influence the utilization of ANC services include the presence of visits, consumption of iron tablets, reception of antihelminthes and reception of Tetanus Toxoid immunization which is influenced by educational factors. This is shown from the results of a study conducted in Nepal, namely that there was a significant relationship between educational status and utilization of antenatal care services at the level of 95% confidence ($p < 0.05$) [29]. The results of the Bangladesh study also showed that maternal education, wealth status, parity, media exposure, place of residence, area of residence, husband's education, ANC provider and place to receive ANC services were significant predictors of the frequency of ANC visits and receipt of items or elements ANC services in Bangladesh [15]. For a one-year increase in visits related to women's education, the opportunity to use ANC services increased by 1.15 times [6]. The higher the level of education of women, the higher the possibility of using sources of quality prenatal care [27]. Women with primary, secondary and high education levels showed respectively 1.86 [OR 1.86, (95% CI 1.56, 2.21)], and 3.67 [OR 3.67, (95 % CI: 2.53, 5.31)] times tend to resolve the symptoms of more ANC visits compared to uneducated women [14]. Another study is also in line, which states that women with advanced education will be more likely to receive four or more prenatal visits than women who have only basic education [30] and the study conducted by Nokuthula et al (2018) is also in line with the use of ANC services influenced by the education of pregnant women, where higher educated pregnant women will visit ANC four times or more [31]. Higher education is also related to increasing financial and geographical access to health services. The problem of access to services is reflected in the possibility of declining ANC, 4 among mothers reporting distance to health services as a major problem [32]. Higher education participants have a four times higher chance of receiving quality ANC compared to women without formal education [17].

Mother who lives with the nuclear family

Factors that influence the utilization of ANC services, which are influenced by maternal factors of the nuclear family of mothers from nuclear families are strongly associated with the utilization of antenatal care services 95% confidence level ($p < 0.05$) compared to those with shared family [29]. Women have little preference in the family; therefore they must depend on their husbands and family members to make decisions. It is even more important for women to make their own choices and decisions based on adequate information from the services they use according to their personal, family and social needs [29].

Distance to health facilities

Pregnant women who live far from health facilities are less likely to use ANC services by skilled workers and those who consider facilities with enough equipment to provide ANC services are more likely to use ANC services at 0.17 times [3]. Based on research results from [33] shows that 27.2% of them use the ANC services because of their proximity to their homes. Research conducted in North Jordan also shows that accessibility to ANC service facilities can also increase utilization of ANC services, which women who live in Maternal and Child Health (MCH) services will be more likely to increase the use of ANC services 4.34 times and access to time-consuming services will reduce service utilization ANC as much as 0.35 times [6]. This finding shows that improving access to health services and the distribution of health and personal services, especially in remote zones, must be a priority [32]. For example women who live in the MCH service

environment will further increase the use of ANC services 4.34 times and access to time-consuming services will reduce the utilization of ANC services by 0.35 times [9]. In addition, housing and zones are predicted to be significant towards quality ANC receipts in Nigeria [17]. Increasing access and utilization of ANC services can contribute to good maternal and fetal health outcomes, which will reduce maternal and infant mortality [31].

Parity

Low parity mothers, especially those with parity 1 have a higher 1 time to use the ANC service element than mothers with four or more parities (OR = 1.078, 95% CI: 1.014 ± 1.158) [15]. Women with many children have a lower utilization of quality prenatal care because of their higher time needs to care for their children and force mothers to forget about utilizing quality prenatal care. They prefer to use prenatal care services such as traditional birth attendants, older women in the household or community, or the nearest drug store, etc [27]. Mothers with low parity, especially with parity 1 have a higher 1 time to use the ANC service element than mothers with parity of four or more [15]. Another study also showed that higher parity was associated with fewer ANC visits, parity was also associated with late ANC visits [34]. Women with many children in the study in Zambia also showed lower utilization of prenatal care because they preferred their time to care for their children, making mothers forget about quality prenatal care. They prefer to use ANC services to non-health service providers such as dai, older women in the household or community, or the nearest drug store, etc. Based on this, contact with skilled health care providers shows that it is very important for service use in rural remote communities [35].

Media exposure received by the mother

Mothers who have television media exposure to at least once a week have a 10% higher likelihood of receiving information from ANC services compared to mothers who do not have television exposure by showing that at least 10% are more likely to receive services from ANC services if pregnant women get reduced exposure television media [15]. Women's exposure to information, education, and advice on ANC during clinic visits had a significant effect and had a positive relationship with the presence of ANC (OR = 9.12; 95% CI = 4.91-16.92) [6]. Women who get increased exposure to safe pregnancy messages by listening to radio and television or reading newspapers initiated by previous ANC's will monitor to use ANC services 6 times greater than women with low exposure. On the other hand, women with their perceptions face fewer barriers to accessing health services initiated by previous ANC's [28].

Quality of service and ANC service providers

Mothers who get treatment by skilled health workers have a 3 times higher odds of receiving ANC services compared to mothers who are treated by unskilled officers [15]. With variable continuity and follow-up, the highest percentage of adequate ANC users is among women who often have scheduled follow-up appointments by health workers (86.6%), and those who report that they are encouraged by providers to return visits (70,8%) [6]. Utilization of ANC services by pregnant women is determined by the quality of ANC services, which is associated with patient satisfaction, indicated that pregnant women will seek ANC treatment facilitated with drug availability and the length of time waiting for examination [10]. utilization of ANC services is also associated with ANC visits, according to Muchie (2017) a woman will be able to complete ANC visits 4 times influenced by the quality of service [14]. Based on several factors that influence the utilization of ANC services, efforts are needed to improve the use of ANC in mothers during

pregnancy, namely by increasing staff, infection control facilities and supply of medicines [10]. Further prenatal care must pay attention to women with low economic status and uneducated partners. In addition, women must be encouraged to make decisions about their own health [36]. Easy affordability is caused by the good condition of the road around the residence of the respondents even though some areas are still damaged, the distance of the antenatal service is close to the respondent's residence, and the distance of the antenatal service area is far but the respondent has a vehicle to go to the antenatal service [37]. The quality of care requires more than adequate resources and the findings in the study conducted by Miltenburg et al (2017) show that it is unlikely that an increase in resources alone will improve the quality of ANC. Current quality indicators and ANC guidelines do not provide sufficient guidance to achieve ANC quality tailored to individual women's needs [16]. Lack of awareness, high workloads, and inadequate skills and facilities are the main reasons for the gap in data collected by midwives. scientific knowledge and technical ability to routinely collect antenatal care data is very important information as evidence-based guidelines for assessing maternal and fetal risk factors to end preventable deaths [38].

ANC Visit

The research in Zambia also shows that key indicators of the use of health services in contact with skilled health care providers appear to greatly influence the utilization of ANC services in Zambia [33]. The coverage of antenatal care services is used as an indicator to measure the success of health programs that have been running on maternal and child health services, especially the health of pregnant women. Various studies in developing countries indicate that the efforts of antenatal care provided by the government are often not maximally utilized [39]. In Ethiopia, for example, only 33.0% of women completed recommended visits and in Zambia only 30% used ANC services [35]. Overall, indicating a shortage of ANC visits to ANC services with skilled and absent or inadequate personnel is a key ANC factor associated with neonatal death. ANC visits to health facilities provide the basis for other ANC services [40]. The research carried out in Tanzania also explained that the visit of pregnant women was influenced by the education of pregnant women, geographical location and ANC service providers themselves. The study conducted in Tanzania also explained that pregnant women's visits were influenced by the education of the ANC itself [32]. A higher proportion of users who have at least 4 times received good quality ANC service visits than those present less than 4 times [17].

Autonomy

Autonomy of women in using Primary Health Care (PHC) for the treatment of pregnancy will also affect their use. Respondents who have autonomy are better to have 0.75 times more likely to use PHC for pregnancy care compared to women who have limited autonomy [33]. Collective decisions of women and husbands have a significant influence on the use of quality resources. Husband's own decisions also have a significant influence but the collective decisions of women and husbands are stronger than their husbands [27]. On the contrary, the lack of female autonomy and decision-making abilities in several problems shows that the group approach cannot fully be the need for individual counseling [41]. As a result of the above factors women from families who are able to have more decision-making capacity and are less likely to be intimidated into accessing prenatal care services [30]. And also educated women who are more likely to have income and are able to pay the costs associated with health care compared to uneducated women. In addition education can also increase self-confidence and increase their level of autonomy and freedom to make health-related decisions, including maternal services [19].

Age

The use of ANC services is also associated with ANC visits, according to Muchie (2017) a woman will be able to complete ANC visits 4 times affected by age (14). Compared with younger women (24-40), older women (41-54) four times (OR 4.04; 95% CI: 1.52–10.78) were more likely to attend ANC at least four times.(35). The results of the study from Awatshi et al (2018) in India state that married women in the elderly have more awareness, knowledge, and information about the sources of quality prenatal care [29]. While a study from Khan & Raza (2017) in India also showed that the age of women and the age of husbands at the first marriage increased the use of sources of quality prenatal care. Furthermore, marriage is then associated with a higher level of education. Educated women decide about their health with more confidence and receive advice from health professionals. These women are financially better and have empowerment, awareness and accessibility to service providers. The use of quality prenatal services is positively related to women's education. The higher the level of education, the higher education women choose to use quality prenatal services. The age of the husband is also associated with increasing utilization of prenatal care because when a husband marries at an advanced age more awareness, knowledge and information about the importance of receiving quality care before giving birth [27]. Age can also maintain an ANC relationship, with women between the ages of 25-29 years more likely to make the first ANC visit earlier than women 24 years and under [28].

Maternal health status

The results of this study in India show that the possibility of using quality antenatal care resources is positively associated with the presence of husbands during prenatal visits [27]. The desire of women to become pregnant also turned out to have a positive relationship with use of care, where women whose pregnancies were planned would be 1.7 times more likely to attend ANC adequately than those with unplanned pregnancies (95% CI = 1.06–2.72) [6]. Heaman et al. (2018) findings also show such medical conditions such as multiple pregnancies, hypertensive disorders, antepartum bleeding, diabetes, and prenatal psychological pressure are associated with a lower likelihood of using ANC services, which shows that pregnant women with medical risks can seek more prenatal care, or may have more prenatal care due to increased follow-up or referral to a specialist, or more prenatal care with a greater potential diagnosis. A higher proportion of women with this condition receiving intensive prenatal care compared to those without conditions with medical risk during pregnancy makes 12% more prenatal visits than those who are not at risk [42]. The main reason for not attending an antepartum clinic was 27.7% of respondents indicated that they did not face problems or complications during their pregnancy, because they did not feel any need to carry out ANC care [29].

Cost

The results of the Asundep et al (2013) study showed that for 49% of women, the costs affected their antenatal attendance. Costs are associated with a possible increase in a woman experiencing adverse outcomes [43]. This is in line with Bahisare's (2015) study, which explains that only two-thirds of women from the lower classes utilize ANC services in health care centers compared to women from the middle class who show [18]. In the study of Gebrekidan et al (2017), it was also explained that costs were closely related to the initial visit to pregnant women, the low monthly income of households had a positive relationship with the delay in ANC visits. Women with high household income are more likely to be able to pay for costs associated with health services and other costs such as transportation costs [44].

4. CONCLUSION

Antenatal care (ANC) is very important to improve maternal and newborn health. Utilization of ANC facilities is influenced by the quality of ANC services provided, this also applies otherwise quality services will affect the utilization of ANC services. Based on the literature review found by the author, there can be several efforts that can increase the utilization of ANC services for pregnant women as well as factors that can influence the utilization of ANC services, namely from several attempts to show that of the four articles stating service provider compliance with ANC visit guidelines which most influences to increase utilization services and from several factors show that of the five articles stating that the education of service users is most influential for the utilization of ANC services in pregnant women.

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