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Perspective

The role of supportive supervision in enhancing and sustaining health education in home management and prevention of malaria among mothers of under-five children

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This paper introduces the concept of supportive supervision in community-based nursing intervention as a supervisory tool among health consumers. It provides overview of supportive supervision as management tool to facilitate delivery of quality service by the health care providers. It also describes the adaptability of this concept to supervision of community members following health education and training with a view to enhancing and sustaining health promotion and prevention of diseases. The author describes utilisation of this tool in promoting and sustaining mothers' skills in home management and prevention of malaria at a community level and recommends its usage by community health workers as a substitute to home visit for different populations within a community where there is dwindling human and material resources to carry out home visits so as to promote effective outcome.

Key words: Supportive supervision, health education, sustaining, home management of malaria.

INTRODUCTION

Health education is a vital component of preventive medical care; its vitality is very significant in primary health care to the extent that it occupies the first position among all the components of the care and at the same time forms an integral part of all other components. The function of health education is underscored in prevention, control and treatment of diseases and dangerous conditions (Tanzania Ministry of Health and Social welfare (TMOHSW), 2010). However, health education or training alone may not be enough to enhance sustenance of community health consumers' knowledge and practice of prevention and in the management of diseases, nurses need to support them through supervision to ensure quality outcome (TMOHSW, 2010). This supervision was always done by community/public health nurses during home visit. However, this tradition is gradually phasing out in Nigeria and it is hampering successful implementation of health care services in the country (Amaran et al., 2012).

TMOHSW (2010) indicated that supervision and audit with feedback, combined with written guidelines are generally

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effective in provision of quality health care services and that multifaceted interventions might be more effective than single intervention. Hughes (2010) quoting Bromberg (1982) defined supervision as “a relationship between two people one of whom has the purpose of using it to improve his work with someone in his or her life and the other who has the purpose of helping him or her to do this”.

Human and material resources had for several years hindered home visit. Amoran et al. (2012) found out in a study conducted on HIV/AIDS home based care practices among primary health care workers that only 16.6% of the respondents that practised home based care believed that the practice is feasible. Out of those who practised home based care, only 5.7% did home visits weekly, 4.6% monthly and 6.3% quarterly. Similarly, Alenoghena et al. (2014) stated that the implementation of primary health care (PHC) is mainly through services provided by primary health centres and home visits and that the processes of this implementation are facing many constraints in the country. One of the government constraint factors the authors identified was inadequate funding (Alenoghene et al., 2014). In view of this, there is need for a paradigm shift that will provide a forum for supportive supervision within the health centres where the health care providers and health care consumers can meet regularly and jointly identify and solve problems and challenges related to treatment and prevention of diseases. With this only patients with very serious problem will be followed up in their homes with the few available resources. This may contribute beneficially to sustenance of health education and training that might have been provided for the patients/clients. Djibuti et al. (2009) defined supportive supervision as “range of measures to ensure that personnel carry out their activities effectively through direct personal contact on a regular basis to guide, support and assist designated staff to become more competent in their work.” This type of supervision can also be adapted for guiding, supporting and assisting the health care consumers to develop self-efficiency in their self-care in the spirit of promoting good health and preventing diseases.

PERSPECTIVE OF SUPPORTIVE SUPERVISION

Supervision is an essential aspect of human resource management for delivery of service that will meet the consumers' needs. Khadivi and Yazdani (2012) stated that supervision has always played an important role in effective and successful performance of educational plans. Hughes (2010) stated that supervision is required to translate plans and programmes into action and necessary to ensure that the subordinates are working according to plans and policies of the organisation. Training people to acquire a skill may not be difficult but the problem is always in the trainees' ability to utilise the skills appropriately and continuously particularly where such trainees are not being directed and supported.

Marquez and Kean (2002) stated that supervision may include periodic events, such as site visits or performance reviews. Traditionally, supervision involved inspection and control of staff, but this approach has not been resulting in expected improvement or assisting staff to solve problems. Marquez and Kean (2002) noted that supervisors often blame individuals rather than look for root causes in deficient processes. For this reason, experts in health services administration advocated supportive supervision with a view to ensuring successful implementation of health programmes and better patient outcomes (Asante and Roberts, 2011). Rohde (2006) described supportive supervision as an approach that uses a practical system of objective measures to foster improvements in procedures, personal interactions, and management of primary health care facilities.

Marquez and Kean (2002) stated that supportive supervision emphasizes joint problem-solving, mentoring and two-way communication between supervisors and supervisees. This description form the bases for considering utilisation of modified supportive supervision approach in the community health care intervention (home management and prevention of malaria) for enhancing and sustaining health promotion behaviour among health care consumers. Marquez and Kean (2002) identified four basic tasks in the process of supervision, and stated that the supervisor facilitates this process by communicating about, assessing and facilitating the work of the supervisees. These tasks include.

Setting of expectations

“For supervision to be effective, the supervisor and the supervisee must set clear expectations or standards against which performance and results can be measured”.

Monitoring and assessment of performance

“The existing standards or guidelines will continually assist in monitoring and assessment to know the extent to which they are met at all levels of the system; whether for individual health care providers, or within and among facilities, and at the district (regional) and national (central) levels”.

Identifying problems and opportunities

“If there are gaps between expectations and outcome, the supervisor will facilitate a team process to examine potential causes and possible solutions. By facilitating open communication and teamwork, the supervisor can help to identify opportunities to improve the overall quality of care”.

Taking action

“The supervisor helps to mobilize necessary human, financial, material, political, and institutional resources to implement intervention. He or she motivates and supports the providers to address performance gaps or opportunities for improvement” (Marquez and Kean, 2002: p. 6).

The process of supportive supervision is continuous or cyclical; as new activities are commencing, expectations are set and the process continues.

Supportive supervision is quality results oriented and aims at improving individual's performance. Kyabayinze et al. (2010) found out in their study on the use of rapid diagnostic tests (RDTs) to improve malaria diagnosis and fever case management at primary health care (PHC) facilities in Uganda that there was decreased trend of presumptive treatment in anti-malaria drug (AMD) prescriptions following supportive supervision they rendered to the study subjects. They recommended that there should be technical support supervision after comprehensive training on parasite-based malaria case management in order to ensure sustained use of RDTs and the trend of AMD prescription.

In another study on role of supportive supervision on immunization programme outcome conducted by Djibuti et al. (2009), the findings revealed that the effect of intervention on immunization managers independently contributed to the improvement of self-perceived knowledge to carry out supportive supervision. There was also a significant impact on reduction of number of self-perceived barriers to supportive supervision. Further to this, there was improved service outcomes in form of decreased vaccine wastage and increased immunization coverage (Djibuti et al., 2009).

Sebastian (2008) as cited in Stanhope and Lancaster (2008) remarked that supervision might occur on-site when the nurse manager is present and while the activity is being performed or off-site when the nurse is providing care in a community setting. These studies confirmed the vital role that supportive supervision plays in improving clients' outcome generally in primary health care services. Although, there have not been many supportive supervision interventions that directly focused on members of the community, the author experimented an off-site supportive supervision among mothers of under-five children in Ido-Osun Egbedore LGA, Osun State Nigeria for six months.

SUPPORTIVE SUPERVISION AS A TOOL FOR COMMUNITY HEALTH NURSING INTERVENTION

The author and two other public health nurses (research assistants / supervisor) conducted a quasi-experimental study on home management and prevention of malaria utilising one control group and two intervention groups; health education and supportive supervision group (HESSG) and health education only group (HEG). Mothers of under-five children in one of the intervention groups (HESSG) had off-site supportive supervision in the form of personal interactions during monthly meetings for six months after the health education programme. This is in consonance with the statement of Marquez and Kean (2002) that supervision may include periodic events, such as site visits or performance reviews. During this period, the researchers collaborated with the mothers to identify and solve problems that stopped them from adequately preventing and treating malaria among the under-five children where such children had malaria episodes. The second intervention group (HEG) had only health education programmes which were similar to what the HESSG had. The health education programme was guided by a manual developed by the researchers from orientation package on malaria prevention and control produced by National Malaria Control Programme and other relevant textbooks and journals.

The inclusion of supportive supervision as an intervention in the study was the researcher's attempt to promote sustainability of health promotion behaviour which the mothers had acquired from the health education programme. The intervention was one of the reinforcing factors considered in her study's conceptual model. Supportive supervision has been recognised as significant administrative tool among health care providers (Asante and Roberts, 2011), the researcher modified it to be useful for reinforcing health consumers' changed behaviour. This was an attempt to evaluate an alternative to traditional home visit follow up which has become non-existent in most primary health care settings due to dwindling human resources and logistic facilities particularly vehicles for transportation (Alenoghene et al., 2014).

The modality for the supportive supervision should be based on the four tasks identified by Marquez and Kean (2002),

that is, setting of expectations, monitoring and assessment of performance, identifying problems and opportunities and taking action. A checklist must be developed to moderate the supportive supervision. A pre-supervision meeting is necessary to be held with the supervisees to explain the purpose of the supportive supervision and for setting up the expectations during the supervision period. Similarly, prior to the supportive supervision meetings, brief meetings should be held with supervisors (when they are more than one) to review the checklist for the supervision and ensure uniformity of supervision process. This checklist is to be used to document the supervisees' experiences during utilisation of the intervention e.g. home management and prevention of malaria. Dates, time and venue for the supportive supervision meetings should be jointly determined by the supervisees and their supervisors at the end of the health education programme. Regular reminder is mandatory via various media like radio announcements, use of cell phones, announcements in the mosques and churches, e.t.c.

Monitoring and assessment of performance of the participants was done retroactively during the monthly meetings because it was not possible to know when the children would have fever. The checklist guided the proceedings of the meetings, problems and opportunities were jointly identified by the supervisors (the researcher and the assistants) and the mothers and appropriate solutions were proffered to the problems during the meetings. Financial constraint, anxiety over outcome of the illness, children crying excessively and inability to go to farm/shops/work were the commonest problems identified and solved. At the end of the meetings, supervisors summarised the contents of the modules of the health education programme to serve as reminder to the mothers with emphasis on the expectations.

The monthly interactive meetings assisted the mothers to open up and discuss their problems within themselves and with the supervisors. Many of them reported that they realised that their problems were not peculiar to them thus enjoying peer support. The meetings served as group therapy forum and as reminder of health education programme with a view to promoting sustainability of the health promotion behaviour.

The limitation of this strategy was mothers' poor attendance at the monthly meetings despite the mobilisation strategies. There was no time throughout the six months when the attendance was up to 50% except at the sixth month when the State Government in collaboration with the Federal Ministry of Health distributed long lasting insecticide nets (LLINs) to all women in the communities. This enhanced the women's attendance as the distribution took place in the venue of the supportive supervision meetings.

CHALLENGES OF SUPPORTIVE SUPERVISION TO COMMUNITY HEALTH NURSING

Utilization of supportive supervision intervention for health care consumers is a unique innovation. It is commonly used to enhance performance of service providers and its effect had been previously studied among formal institutions but not in the communities. Some of the attributes of the strategy is the ability to jointly identify and solve health problems through mentoring and two-way communication between supervisors and supervisees rather than health care providers (supervisors) blaming the individuals for inaction. With this, the community health nurses will be able to assume responsible and effective position in successful implementation of all strategies for achievement of health promotion and maintenance in the communities. This model will be found useful with the present dwindling human resources and logistic support for home visit that is almost going into obsolescence. The health care providers will be using supportive supervision meetings to receive feedback from the health care consumers, reinforce their good practices and correct bad practices as well as myths and misconceptions.

Integration of supportive supervision clinic meetings for health care consumers require the attention of the policy makers for appropriate intervention in terms of policy, training and retraining of the primary health care providers in rendering this mentorship care. In addition, the community health nurses can identify interested community members to be trained as role model mothers with a view to complimenting provision of quality health care within their communities.

CONCLUSION

It is hope that the concept of home visiting in community health care practice could be modified to depict supportive supervision for caregivers in the communities to foster improvements in procedures, personal interactions, and provision of quality health care services. The dwindling human and material resources for home visits should not be allowed to completely hinder following clients up rather, the community health nurses could organise supportive supervision meetings where clients can express their challenges and problems they are encountering in management of any disease. It is also important that malaria control interventions, focusing on promotion of prompt access to appropriate and effective treatment should as well recognise and address other perceived and real barriers to malaria health-seeking behaviour. Such barriers are the cost of anti-malarial drugs in the community and the private sector, accessibility to health facilities, insufficient number of health care providers, and empowerment of mothers as decision-

makers at the household level. Further study should also be carried out on utilisation of supportive supervision among health care consumers.

CONFLICT OF INTERESTS

The author has not declared any conflict of interests.

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Full Length Research Paper

Prevalence and predictors of antenatal depressive symptoms among women attending Adama Hospital Antenatal Clinic, Adama, Ethiopia

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Antenatal depressive disorders are serious health problems and pose multiple dangers to both the mother and her fetus, however, not given due attention. They are found with significantly higher prevalence rates in low income countries and associated with socio-economic and socio-cultural factors predominantly. The main objective of this study was to assess the prevalence of antenatal depressive disorders and associated factors among Adama Hospital Antenatal clinic attendants. A hospital based cross sectional study was conducted from March 1st to April 21st, 2011 at Adama Hospital, Adama, Ethiopia. About 231 pregnant women were interviewed using systematic sampling method. Pretested Beck Depression Inventory (BDI) structured questionnaire was used to collect data. The presence of depressive disorders was explained by the sum of BDI items scored 21 and above. And, data entry was done by SPSS version 15 and analyzed using logistic regression. The mean age was 26.32±0.24. About 56.7% were in third trimester and 45% were nulliparous. Regarding pattern of current pregnancy, unwanted pregnancy accounted 42%. Prevalence rate of antenatal depressive disorders was found to be 31.2%. Previous abortion [AOR=2.86, CI (1.13, 7.24)], fear of pregnancy complications [AOR=3.49, CI (2.21, 22.17)], economic problem [AOR=9.52, CI (2.68, 33.78)] and unwanted pregnancy [AOR=6.99, CI (2.21, 22.17) and marital conflict [AOR=22.68, CI(3.61, 142.33)] were found to have strong association with depressive disorders. The prevalence of antenatal depressive disorders was high at the study area. Psychosocial factors, economic problems and obstetric features were significantly associated with maternal depressive disorder. Adama Hospital should integrate mental health service with existing antenatal clinic service. In addition, screening of antenatal care (ANC) attendants for potential risk factors of antenatal depressive disorders could be crucial to hamper the impending dangers through early detection.

Key word: Antenatal depressive disorders, pregnant women, Adama hospital, beck depression inventory.

INTRODUCTION

Antenatal depressive disorders are significant health problems; especially in low and middle income countries (Das, 1994). Though reports on prevalence rates lack

consistency, substantial higher rates are from developing countries (Felice et al., 2008).

A systemic review of 15 counties reported 32.2%

prevalence rate of antenatal depressive disorders. This may even be higher among high risk groups; within the range of 38 to 50 % (Bennett et al., 2004; Nasreen et al., 2010). Standard survey was carried out on ten Michigan Obstetric units and the report viewed 20% prevalence rate (Marcus et al., 2003). Another study conducted among rural and urban pregnant women at Ankara antenatal settings found prevalence of 33.1% (Senturk et al., 2011). And also; a hospital based study in Hong Kong took the samples at the antenatal clinic and revealed 37% prevalence of depressive symptoms (Lee et al., 2007).

Unlike the commonly reported findings from developing countries, a recent community based study in Nigeria showed prevalence rate of 8%. However; there is paucity of information on antenatal depressive disorders from Africa. And, no available studies were carried out at health institutions (Adewuya et al., 2007).

Antenatal depressive disorders were found in association with some factors; marital conflict, economic problems, poor support from husband, unwanted pregnancy, previous abortion and past obstetric complications (Adewuya et al., 2007; Kaaya et al., 2010; Dayan et al., 2010). History of past psychiatric disorders, chronic medical illness and poor antenatal care were also reported (Rubertsson et al., 2005; Pereira et al., 2009); however, controversies in the data exist (Hartley et al., 2011; Nasreen et al., 2011; Sawyer et al., 2010).

Pregnant women with antenatal depressive disorders are at risk for recurrent spontaneous abortions, obstetric complications, postnatal depressive disorders and poor child rearing capacity. Babies are also at increased danger for intrauterine growth retardation, preterm delivery, impaired postnatal growth and frequent infant diarrheal diseases (Stewart et al., 2010; Deyessa et al., 2010). Moreover; such women are in danger of troubled social functioning and immune related disease states (Hart and Mahon, 2006; Stein et al., 1991).

Assessment of psychosocial problems and mental health is an integral part of antenatal services to ensure safe pregnancy and delivery. But developing countries lack such antenatal care (ANC) services; and even if available, lack coverage, quality or support from stakeholders. In accordance with this fact, a study at Nottingham University notified that WHO has formulated a focused ANC guideline including women's mental health package to be used during ANC assessment (Menon et al., 2010).

In addition to lack of available reports both at national and local study area of this study, higher prevalence rate of antenatal depressive disorders occur at health care settings; therefore, the purpose of this study was to

assess the magnitude of antenatal depressive disorders and identify predictors of Antenatal Depressive symptoms among Adama Hospital antenatal clinic attendants.

METHODOLOGY

Study design

Institutional based cross-sectional study design was used.

Study area and period

Adama Hospital is found in Adama town; East Shoa, about 99 km away from Addis Ababa. The Hospital is used for practical teaching of accelerated health officers, clinical nurses, and midwifery, laboratory and pharmacy students at BSc and diploma level besides serving the community. Antenatal care is one of the hospital services organized under health promotion case team. All pregnant mothers who visited the clinic were given appointment for re-visit accordingly. Pregnant mothers were allowed to come back to the clinic at any time on working days and hours for perceived emergency signs and symptoms of pregnancy complications. There was only one midwifery nurse carrying out the ANC services.

The ANC service is organized since establishment of the hospital. There was one psychiatry outpatient department. The system for mental health has no link with antenatal clinic; hence no access of integrated activities for pregnant ladies suffering from mental problems. The study was conducted from March 1st to April 21, 2011.

Study population

Pregnant women attending antenatal clinic within the study period, whose pregnancy was at least 16 weeks (4 months) and below 37 weeks.

Exclusion criteria

1. Those previously diagnosed for depressive disorders
2. Critically ill ones
3. Who were on treatment for mental disorders

Sample size determination and sampling procedures

Single population formula was used with the assumption of 95% confidence interval, precision (d) of 0.03, proportion 8% from the study done in Nigeria and adding 10% non-response rate, 243 women were participated in the study. Systematic sampling procedure was used to interview the study subjects. Every third pregnant woman was approached for the interview during follow up period until the required sample size fulfilled.

Study variables

1. Dependent variable: Antenatal depressive disorders

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2. Independent variable: Age, educational level, occupation, marital status, level of monthly income, marital conflict, history of abortion, unplanned pregnancy, fear of pregnancy complications, poor husband support, number of live children, perceived poor antenatal care.

Operational definition

Depressive disorders

The presence of depressive disorders was explained by the sum of BDI items scored 21 and above.

Data collection method and quality assurance

Data was collected by interview technique using standardized and validated Beck Depression Inventory (BDI) and structured questionnaire after translated in to Amharic.

BDI was developed and revised to reflect the revision in the current DSM-IV-TR and had been extensively tested for content validity. BDI was composed of 21 questions, each with four possible responses. Each response was assigned a score ranging from zero to three, indicating severity of a symptom. Two BSc nurses supervisor and three diploma clinical nurses data collectors were recruited. Training was given for data collectors and supervisors before data collection and then pretest was done to avoid errors during the actual data collection period. The data was checked daily by supervisors.

Data analysis

All returned questionnaires were checked for completeness and consistency. Data was coded and then entered, cleaned, stored and analyzed using SPSS 15. Descriptive analysis was used to depict frequency and percentages of variables. Logistic regression was used to find out association between depressive disorders and suggested related factors and strength of association was evaluated using odds ratio at 95% confidence interval and P-values 0.05 was considered to declare significant associations.

Ethical consideration

Ethical approval was obtained from Adama Hospital ethical committee after having authorized letter from University of Gondar and Amanuel Specialized Mental Hospital. All antenatal clinic attending mothers were approached and subjects who gave written consent were interviewed. The interview was conducted in a single separate room around the antenatal clinic. Confidentiality was maintained through no registration of personal identification. Subjects identified with depressive disorders were advised to visit the psychiatric clinic and given referral.

RESULTS

A total of 231 pregnant women were interviewed and has 95% response rate. The mean age was 26.32 ± 0.24 . Regarding their level of education; unable to read and write was 7.8%, read and write to primary school were 30.8%, secondary school was 44.2% while higher education constituted 17.7%. Majority (82.3%) was married and house wife (58%). Prevalence rate of

antenatal depressive disorders was found to be 31.2%. About 56.7% were in third trimester and 45% were nulipara. A total of 37.8% had history of abortion. Unwanted pregnancy accounted 42% (Table 1).

Overall, 55% stated pregnancy is not joyful for them and 16.9% respondents explored they have poor husband support. About 16% reported their husbands are not happy on the occurrence of current pregnancy (Table 2).

Participants were made to indicate or choose factors at which they mostly worry about through the current pregnancy. Accordingly; fear of pregnancy complications 27.7%, unwanted pregnancy 22.5% and economic problem 20% were more frequent (Table 3).

About 98.3% reported their happiness on services of the antenatal clinic; however 66.7% stated lack of enough information regarding possible outcomes of pregnancy and expected labor. Moreover, 97% complained their ANC visit did not help for psychosocial problems.

Association of covariates with antenatal depressive disorders

From logistic regression, there was statistically significant association between antenatal depressive disorder and previous abortion history [AOR=2.86, 95%CI=(1.13, 7.24)], unwanted pregnancy [AOR=6.99, 95%CI=(2.68, 33.78)], marital conflict (AOR=22.68 CI (3.61, 142.33)], economic problem [AOR=9.52, 95%CI=(2.21, 22.17)] and fear of pregnancy complications [AOR=3.49, 95%CI=(1.45, 8.41)]. However, there was no statistically significant association between socio demographic variables and antenatal depressive disorder (Table 4).

DISCUSSION

This hospital based study attempted to assess the magnitude of antenatal depressive disorders and associated factors among Adama hospital antenatal clinic attendants. The screening material for prevalence rate was the standard BDI. Beck depression inventory was considered because it is revised recently in considering the DSM IV TR which is currently in use for psychiatric evaluation. Moreover, psychosocial factors, obstetric information, health and ANC related factors were recognized to assess associated factors.

Prevalence rate of antenatal depressive disorders in this study was 31.2%; within the range of previous reports at clinical settings. A report at Michigan Obstetric Clinics showed 20% and there was 33.1% prevalence rate at Ankara antenatal clinic (Mohammed and Gamble, 2011). Generally, considerable higher prevalence rates have been seen with screenings at health care facilities than community based studies. This could be due to effects of study designs, sample size, types of instrument and different cut-off points (Hart and Mahon, 2006; Stein

Table 1. Frequency distribution of obstetric and other health related features among women attending Adama hospital antenatal clinic, Adama, Ethiopia (n=231).

Characteristics	Frequency	Percentage
Trimester		
Second	100	43.3
Third	131	56.
Parity		
Nulliparous	104	45
Multipara	127	55
Number of live children		
≤ 2	89	70.1
≥ 3	7	5.5
Zero	31	24.4
History of pregnancy complications		
Yes	15	11.8
No	112	88.2
History of complicated labour		
Yes	24	18.9
No	103	81.1
History of abortion		
Yes	48	37.8
No	79	62.2
Pattern of previous abortion		
Spontaneous	8	37.5
Induced	30	62.2
Pattern of current pregnancy		
Planned	134	58
Unwanted	97	42
Presence of Chronic illness		
Yes	20	8.7
No	211	91.3

et al., 1991).

Socio-demographic characteristics of participants were explained by age, educational status, income level, marital status and occupation. None of socio demographic features show association. This is analogous with a previous systemic review in Africa (Mohammed and Gamble, 2011).

There was discrepancy observed between influence of monthly income and economic problems on presence of antenatal depressive disorders. About 20.8% of subjects reported that economic problems were something that caused frequent stress. Similarly, pregnant women having economic problems were found to be 9.52 times prone to antenatal depressive disorders than financially stable ones. Conversely, monthly income was not found as an association. This may attributed women having less economic power and an unbalanced share on the financial management of family income. Furthermore, more than half of the participants were housewives who reported monthly income of their husbands.

Presence of bad obstetric history (complications of

pregnancy and/or labour), number of live children, parity and age of pregnancy were not found in association with presence of antenatal depressive disorders. This was supported by a systemic review done in Africa (Mohammed and Gamble, 2011). But, opposite to previous report from rural Malawi (Rubertsson et al., 2005). Unwanted pregnancy indicated 6.99 times increased risk [AOR= 6.99 CI (2.21, 22.17)]; similar to a study in Brazil (Pereira et al., 2005). However; it was in contrast to findings at Cape Town (Kaaya et al., 2010). This could be due to the difference in sample size, inclusion exclusion criteria and used instruments. Fear of pregnancy complications [AOR=3.49, CI (1.45, 8.41)] and previous abortion [AOR=2.86, CI (1.13, 7.24)] showed strong association; analogous with a prior report in Africa (Lee et al., 2007).

A positive relationship between presence of chronic illness and antenatal depressive disorders was seen prior to controlling confounders but no longer existed; opposite to previous findings (Senturk et al., 2011). This might be explained by the variation in sample size and instruments.

Table 2. Frequency distribution of information on psychosocial factors among Women attending ANC clinic at Adama Hospital, Adama, Ethiopia (n=231).

Factors	Percentage
Extra joy due to pregnancy	
Yes	55
No	45
Husbands feeling on pregnancy	
Happy	84
Unhappy	16
Husbands support	
Good	83.1
Poor	16.9
Perceived community care	
Good	93.5
Poor	6.5
Pregnancy disclosure	
Easy	56.7
Difficult	43.3
Burden of social responsibilities	
Yes	6.9
No	93.1
Extra care from husband	
Yes	77.1
No	22.9

Table 3. Frequency distribution of emotionally disturbing factors through the current pregnancy as indicated among Women attending ANC clinic at Adama Hospital, Adama, Ethiopia (n=231).

Characteristics	Frequency (%)	
	Yes	No
Lack of family support	14.3	85.7
Burden of household duties	7.8	92.2
Economic problems	20.8	79.2
Fear of pregnancy complications	27.7	72.3
Lack of access to health care	0.4	99.6
Unwanted pregnancy	22.5	77.5
Previous mishandling by health professionals	0.4	99.6
Previous mishandling by health professionals	0.4	99.6
History of induced abortions	4.3	95.7
Fear of being unable to care the new born baby	13	87
Marital conflict	14.7	85.3
Uncertainty on the quality of hospital delivery service	2.2	97.8
Pregnancy related disorders	3	97

About 98.7% participants were happy on ANC service. Contrary to this, 68.8% of the study subjects and 97.2% of those having depressive disorders witnessed no enough information was provided at ANC about possible outcomes and expected delivery of the current pregnancy. This was found in line with the positive

relationship between fear of pregnancy complications and antenatal depressive disorders [AOR=3.17, CI (1.45, 8.41)]. Moreover; 97% affirmed no benefit of ANC visits for their psychosocial problems. These all showed discrepancy to service satisfaction obtained from participants suggesting that perhaps participants did not

Table 4. Logistic regression analysis of selected variables of pregnant women towards antenatal depressive disorders at Adama Hospital antenatal clinic, Adama, Ethiopia (n=231).

Variable	Depressive disorders		Crude OR at 95% CI	Adjusted OR at 95% CI
	Yes	No		
Occupation				
Employee	27	36	1.07(.46, 2.50)	1.22(.36, 4.16)
Housewife	31	107	.43(.19, .95)	.40(.13, 1.28)
Own business	14	20	1	1
Previous abortion				
Yes	23	25	2.52(1.31, 4.84)	2.86(1.13, 7.24)*
No	49	134	1	1
Chronic illness				
Yes	12	8	3.77(1.47, 9.70)	1.04(.23, 4.68)
No	60	151	1	1
Marital conflict				
Yes	31	3	39.32(11.45, 135.02)	22.68(3.61, 142.33)*
No	41	156	1	1
Economic problem				
Yes	39	9	19.70(8.70, 44.58)	9.52(2.21, 22.17)*
No	33	150	1	1
Husband support				
Good	44	146	1	1
Poor	28	13	6.30(3.0, 13.26)	.38 (.05, 2.87)
Fear of pregnancy complications				
Yes	32	32	3.17(1.73, 5.82)	3.49 (1.45, 8.41)*
No	40	127	1	1
Unwanted pregnancy				
Yes	41	11	17.79(8.24, 38.43)	6.99 (2.68, 33.78)*
No	31	148	1	1
Unwanted pregnancy by husbands				
Yes	28	150	10.61(4.66, 24.15)	2.04(.29, 14.46)
No	44	9	1	1

feel comfortable reporting dissatisfaction because the survey took place at the hospital.

Marital conflict was associated to antenatal depressive disorders [AOR=22.68, CI (3.61, 142.33)] and this was similar to other studies (Pereira et al., 2009; Hartley et al., 2011). Opposite to societal values about pregnancy as joyful period for women, about 45% of study subjects declared pregnancy did not brought extra joy. This was also in line with other studies (Bennett et al., 2004).

As limitation of this, it prone to demerits of the study design nature being cross sectional. The other limitation could be information bias may be introduced while using the measurement of BDI.

Conclusion

The prevalence of antenatal depressive disorder was high among Adama Hospital antenatal clinic attendants. It could be because this study is inclusive to all types of depressive disorders likely to occur at antenatal period.

The effects of previous abortion, fear of pregnancy complications, economic problems, unwanted pregnancy and marital conflict have significant association with the development of antenatal depressive disorders. There should be consideration of integration of mental health service to antenatal clinic services by the hospital. Moreover; refreshment of the Hospital health professionals on antenatal depressive disorders, including common mental disorders within the contents of health education and early screening of pregnant women may help more.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

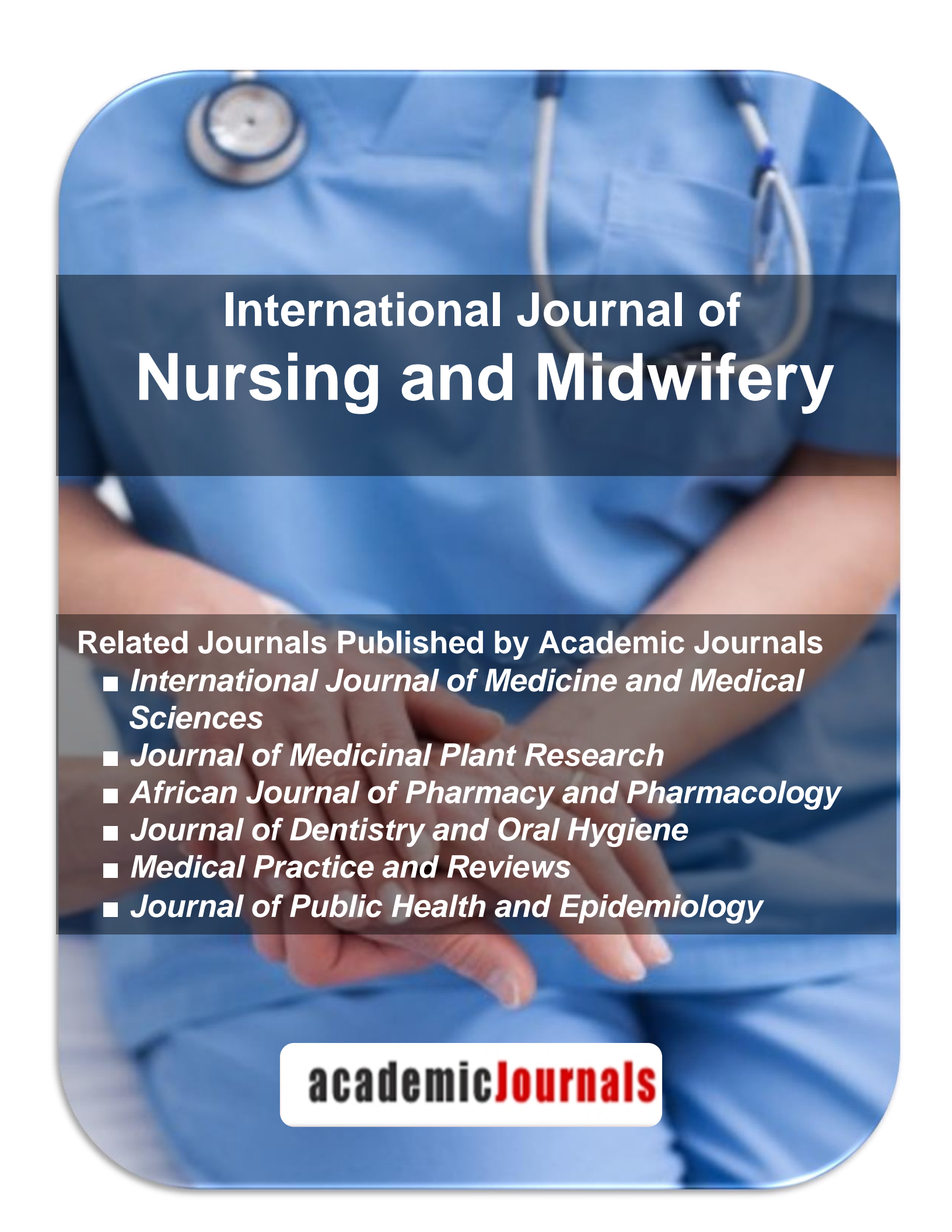
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