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Prevalence and pattern of intimate partner violence in Edo state, southern Nigeria

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Introduction: Much of the initial research on prevalence and pattern of Intimate Partner Violence (IPV) was conducted on women and supported the assumption that IPV is primarily perpetrated by men against women. It is also becoming recognized that perpetration of IPV by both partners within a relationship is common. This phenomenon has been described with terms such as mutual violence, bi-directional or reciprocal violence.

Objective: The objective of this study is to assess the prevalence and pattern of intimate partner violence in Edo State.

Methods: This was a descriptive, cross-sectional study among residents in Edo State, Nigeria, who had been in an intimate relationship for at least one year preceding the study. A pre-tested, interviewer-administered, questionnaire adapted from the WHO multi-country study on domestic violence was the tool for data collection. Data analysis was by IBM SPSS and level of significance was set at $p < 0.05$.

Results: A total of comprising 980 respondents with a mean age of 30.44 (9.26) years participated in the study. Lifetime prevalence of IPV was 745 (76.0%). Of these, physical IPV 590 (60.2%) was the most suffered. A total of 645 (65.8%) were in a relationship, where bi-directional violence took place, while 210 (21.4%) were in a relationship where uni-directional violence took place. IPV was higher among respondents with a family history of IPV (< 0.001).

Conclusion: Prevalence of IPV was high in the studied population. All stake holders should ensure collective effort in reducing the prevalence of IPV.

Biography

Ogboghodo E O has her expertise in Reproductive Health and Epidemiology. She is a Lecturer in the Department of Community Health, College of Medical Sciences, she teaches undergraduate students in the field of Reproductive Health as well as other specialties in Public Health. She is also the Monitoring and Evaluation officer of the Centre of Excellence in Reproductive Health Innovation (CERHI) a project supported by the World Bank and the Association of African Universities (AAU) which will build capacity within West Africa's tertiary educational system for implementing high quality training and applied research for reproductive health professions to tackle policies and programs for reducing the region's reproductive health issues.

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Notes:



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Accepted Abstracts

The effect of vitamin C, vitamin E, zinc, selenium and coenzyme Q10 in infertile men with idiopathic oligoasthenozoospermia

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Background: Accumulating evidence suggests that oxidative stress plays an important role in the development of male infertility and recently antioxidants have been tried to treat men with idiopathic infertility.

Objective: To assess the effect of treatment with vitamin C, vitamin E, zinc, selenium and coenzyme Q10 on seminal fluid parameters in infertile men with idiopathic oligoasthenozoospermia.

Materials and methods: A prospective randomised trial was conducted on thirty-two infertile men with idiopathic oligoasthenozoospermia who received a daily supplement of one caplet containing vitamin C (90 mg/day), vitamin E (15 mg/day), coenzyme Q10 (4 mg/day), selenium (30 µg/day) and zinc (5 mg/day) for three months. Semen analysis was performed at baseline and three months after treatment using WHO 2010 guidelines.

Results: Significant improvement in sperm concentration was observed after combination therapy (9.13 ± 4.29 vs. $11.3 \pm 6.05 \times 10^6/\text{ml}$, $P < 0.05$). Sperm progressive motility (18.1 ± 8.68 vs. $24.6 \pm 10.2\%$, $P < 0.01$) and total motility (28.4 ± 8.71 vs. $34.4 \pm 11.7\%$, $P < 0.01$) also increased significantly following treatment. No change, however, was observed in semen volume or the proportion of sperms with normal morphology.

Conclusion: The combination of vitamin C, vitamin E, zinc, selenium and coenzyme Q10 can significantly improve sperm concentration and motility infertile men with idiopathic oligoasthenozoospermia which could be attributed to their synergistic antioxidant action.

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Biochemical and molecular activities of *Candida albicans* treated with medicinal plants

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This study aimed to compare the antimicrobial activity of *Phoenix dactylifera* and *Ziziphus spina-christi* ethanol extracts in terms of their biochemical and molecular effects on *Candida albicans*. These effects were evaluated regarding intracellular sterols, permeability of the cell membranes, and morphological characteristics determined by scanning electron microscopy (SEM). Energy-dispersive X-ray spectroscopy (EDAX) analyses were also conducted in addition to assessment of the changes in *TEF1: QRTTEF1*, *CaERG1: ERG1*, *CdERG12: CdERG1*, and *ERG25: ERG25* genes. The results showed that sterols increased by 1.096% and 0.588% with treatment by *P. dactylifera* and *Z. spina-christi*, respectively, compared to the untreated cells. The ethanol extracts were effective on *C. albicans* permeability by reducing the cell membranes permeability. The SEM and EDAX analyses showed cell cavities and shrinkage of the cell wall. In addition, the quantity of cells was decreased to a few abnormal cells compared to the untreated cells. Yttrium was detected in the cells treated with *Z. spina-christi*, and high levels of osmium were detected in the cells treated with *P. dactylifera*. The gene sequence showed gaps and mismatches on *ERG1F*, *ERG1R*, *ERG12F*, *ERG12R*, and *ERG25F* genes after treatment with *P. dactylifera* and *Z. spina-christi* compared to untreated cells. The results were highly significant ($p \leq 0.01$), and we concluded that ethanol extracts of *P. dactylifera* and *Z. spina-christi* have an antimicrobial effect on several targets in yeast cells.

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Utilization of reproductive health services with a focus on; The minors, adolescents and people with special needs – likuyani sub county

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People with disabilities constitute 5% of a given population, while the mature adolescent constitutes at least 24%. These groups are not only sexually active but also in dire need of the essential reproductive health services. Kenya has put considerable effort into policy development and strategic planning in ensuring a smooth operational process in RH service delivery to its population. Several policy guidelines have been formulated in this regard; ie; Policy Guidelines for service providers in family planning, National RH Implementation Plan (1999-2019), Adolescent RH development policy (2003), Sexual offences Act No.3 (Rev 2007), National RH policy etc. Despite all these RH policies, access to RH services has remained relatively low even in low economic rural settings. None of the policies provide a workable solution and or monitoring uptake of RH services for persons with disabilities, who are equally vulnerable to the effects of the ever changing social-demographic processes.

Method: A retrospective quantitative data analysis from health facilities offering reproductive health services in the sub county during the 2013-2014 financial year.

The following clients received services;

- Family Planning – 7796
- Antenatal Clinic 1st visits – 2993
- Maternity deliveries – 1312
- Post abortion – 141
- Voluntary counseling and Testing – 4287

Results:

- Minors 0.23% attended family planning services, 14-24 years 37% over 24 years; 65% and PWDs 0.008%
- Ante natal Services; Minors 0.14%, 14-24yrs 51%, > 24yrs- 47%, PWDs -0.069%
- Hospital Deliveries; Minors 0.15%, 15-24s 57%, >24s- 43% PWDs- 0
- Post abortion care; Minors 0. 15-24s 49.6%, > 24s -50.35% PWDs- 0
- Voluntary counseling and Testing services; Male – 41%, Female- 59%, Minors- 3.2%, 15-24s- 34%, > 24s -62%, PWDs- 0.041%

Conclusion: While both the adolescents and the elderly attend PAC services and maternity deliveries in almost equal measures, there is a significant drop in accessing family planning services and VCT among the adolescents. People with special needs are either not accessing this essential service or are not adequately covered and identified. It is imperative therefore that urgent and sustainable intervention measures be initiated to address the situation.

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Determinants of maternal near miss among women in public hospital maternity wards in Northern, Ethiopia: A facility based case-control study.

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Background: In Ethiopia, 20,000 women die each year from complications during pregnancy, childbirth and the post-partum period. For every woman who dies of pregnancy complications, about 20 more experience injury, infection, disease, or disability. “Maternal near misses” (MNM), defined by the World Health Organization (WHO) as a woman who nearly dies, but survives a complication during pregnancy, childbirth or within 42 days of termination, is a proxy indicator of maternal mortality and quality of obstetric care. In Ethiopia, few studies have been performed on MNM, and little is known regarding determinant factors. This study aims to identify determinants of MNM among women in Tigray, Ethiopia.

Methods: Unmatched case-control study in hospitals in Tigray Region, Northern Ethiopia, from January 30 - March 30, 2016. The sample included 103 cases and 205 controls recruited from women seeking obstetric care at six public (6) hospitals. Clients having a life-threatening obstetric complication including hemorrhage, hypertensive diseases of pregnancy, dystocia, infections, and anemia or clinical signs of severe anemia in women without hemorrhage were taken as cases and those with normal obstetric outcomes were considered as controls. Cases were selected based on proportional to size allocation while systematic sampling was employed for controls. Data was analyzed using SPSS version 20.0. Binary and multiple variable logistic regression (“odds ratio”) analyses were calculated with 95% CI.

Results: The largest proportion of cases and controls was between the ages of 20–29 years, accounting for 39 (37.9%) of cases and 65(31.7%) of controls. Roughly 90% of cases and controls were married. About two-thirds of controls and 47(45.6%) of cases had gestational age between 37-41 weeks. History of chronic medical conditions was reported in 57(55.3 %) of cases and 68(33.2%) of controls. Women with no formal education [AOR=3.2;95%CI: 1.24, 8.12], being less than 16 years old at first pregnancy [AOR=2.5; 95%CI: 1.12,5.63], induced labor [AOR=3; 95%CI: 1.44, 6.17], history of Cesarean section (C-section) [AOR=4.6; 95%CI: 1.98, 7.61] or chronic medical disorder [AOR=3.5;95%CI: 1.78, 6.93], and women who traveled more than 60 minutes before reaching their final place of care [AOR=2.8;95% CI: 1.19,6.35] all had higher odds of experiencing MNM.

Conclusions: The Government of Ethiopia should continue its effort to address lack of road and health facility access as well as education, which will help reduce MNM. Work should also be continued to educate women and providers about common predictors of MNM like history of C-section, chronic illness, and teenage pregnancy. These efforts should be carried out at the facility, community, and individual levels. Targeted follow-up to women with history of chronic disease and C-section could also be a practical way to reduce MNM.

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Effect of antibiotic administration during infancy on growth curves through young adulthood in Rhesus macaques (*Macaca mulatta*)

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Recent human studies indicate a possible correlation between the administration of antibiotics during early life and the risk of later obesity, potentially due to antibiotic-induced alteration of the gastrointestinal microbiome. In humans, the risk of obesity increases with multiple courses of antibiotics and when fetuses or infants are treated with broad-spectrum and macrolide antibiotics. In addition, the obesity risk in humans seems higher for males than females. We used a retrospective, case-control, matched-pair study design to evaluate health records for 99 control-matched pairs of rhesus macaques (*Macaca mulatta*) from an outdoor breeding colony. We hypothesized that NHP treated with antibiotics prior to 6 months of age would have steeper growth curves than those who were not. However, in contrast to prior research with humans and mice, growth curves did not differ between antibiotic-treated and control animals. Differences between humans and NHP may have influenced this outcome, including the relative standardization of NHP environmental factors and diet compared with those of human populations, types of infections encountered in infancy and choice of antibiotic treatment, and the different relative maturity at 6 months of age in the 2 species. The results provide support for current standard medical practice in NHP and highlight a difference between macaques and humans that may influence future obesity research using macaques. Determining the basis for this difference might improve our understanding of the risks of early life antibiotic treatment and suggest mitigation strategies for treating infant illnesses without risking obesity.

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Multilayer-strategy to enhance optimal safety of the blood supply: The role of pathogen inactivation/reduction for optimizing recipient safety and helping health care cost containment

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Over 100 million units of blood are collected yearly. The need for blood products is greater in developing countries, but so is the risk of contracting a transfusion-transmitted infection. Without efficient donor screening/viral testing and validated pathogen inactivation technology, the risk of transfusion-transmitted infections correlates with the infection rate of the donor population. The World Health Organization has published guidelines on good manufacturing practices to ensure a strong global standard of transfusion and blood product safety. Sub-Saharan Africa is a high-risk region for malaria, human immunodeficiency virus (HIV), hepatitis B virus and syphilis. Southeast Asia experiences high rates of hepatitis C virus. Areas with a tropical climate have an increased risk of Zika virus, Dengue virus, West Nile virus and Chikungunya, and impoverished countries face economical limitations which hinder efforts to acquire the most modern pathogen inactivation technology. These systems include Mirasol® Pathogen Reduction Technology, INTERCEPT®, and THERAFLEX®. Their procedures use a chemical and ultraviolet or visible light for pathogen inactivation and significantly decrease the threat of pathogen transmission in plasma and platelets. They are licensed for use in Europe and are used in several other countries. The current interest in the blood industry is the development of pathogen reduction technologies that can treat whole blood and red blood cells. The Mirasol system has recently undergone phase III clinical trials for treating WBC in Ghana and has demonstrated high efficacy toward malaria inactivation and low risk of adverse effects. A 2nd-generation of the INTERCEPT® S-303 system for WBC is currently undergoing a phase III clinical trial. Both methodologies are applicable for WB and components derived from virally reduced WB or RBC. The implementation of such technologies enhances not only optimal recipient safety and also bring about considerable cost containment in health care system, in long terms, by removing some of the multilayer safety tests currently in practice.

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Identification of the causative agents for diarrhea in piglets from a Taiwanese pig farm

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Post-weaning diarrhea (PWD) of weaned piglets was found to frequently occur in a commercial pig farm in western Taiwan. The purpose of this study was to find and characterize the causative agents. From September 11, 2014 to February 11, 2015, 15 stool samples from healthy piglets and 58 rectal swab specimens from diarrheic piglets were collected from the pig farm, and 26 and 100 *E. coli* strains were isolated independently. These 126 strains were checked by PCR for genes of six virulence factors: heat-labile enterotoxin (LT; encoded by *eltAB*), heat-stable enterotoxin A (STa; encoded by *estA*), heat-stable enterotoxin B (STb; encoded by *estB*), enteroaggregative *E. coli* heat-stable enterotoxin 1 (EAST1; encoded by *astA*) and Shiga toxin 2e (Stx2e; encoded by *stx2e*), and F18 fimbriae (encoded by *fedA*); secretion of LT and ST were also examined by ELISA-based commercial kits. None of the 126 strains were carrying *stx2e*. Of the 26 strains recovered from healthy piglets, none carried *fedA* nor secreted LT, 23% (6/26) secreted ST, and 50% (13/26) carried *astA*. In contrast, of the 100 *E. coli* strains recovered from diarrheic piglets, 41% (41/100) carried *fedA*, of which 88% (36/41) secreted both LT and ST, but none carried *astA*. Thus, the main causative agent for PWD in this Taiwanese pig farm was identified to be the F18 fimbriae-positive, LT and ST secretion-positive enterotoxigenic *E. coli*, which were carrying *fedA*, *eltAB*, *estA* and *estB*, but not *astA* nor *stx2e*.

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Influenza A virus-induced IL-6 storm is regulated by SOCS3

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Influenza A virus (IAV) is still a major public health threat in the world, as indicated by enormous severe pneumonia resulted from the virus infection every year. IL-6-involved excessive inflammatory response to IAV infection profoundly contributes to IAV pathogenesis. However, precise regulatory mechanisms underlying such a response are poorly understood. Here we found from both *in vivo* and *in vitro* studies that IAV not only induced surge of IL-6 release, but also greatly upregulated expression of SOCS3, the potent suppressor of IL-6/STAT3 signaling. Interestingly, there existed a cytokine-independent mechanism of the robust induction of SOCS3 by IAV at least at early stage of the infection. Furthermore, we generated SOCS3-knockdown transgenic mice (TG), and surprisingly observed from virus challenge experiments using the TG mice that disruption of SOCS3 expression provided significant protection against IAV infection, as evidenced by attenuated acute lung injury, a higher survival rate of infected animals and lower viral load in infected tissues as compared with those of wild-type littermates under same challenge. The activity of NFκB and the expression of its target gene IL-6 were remarkably suppressed in SOCS3-knockdown A549 cells and TG mice after infection with IAV. Moreover, we defined that enhanced STAT3 activity caused by SOCS3 silencing was important for the negative regulation of NFκB and IL-6. These findings establish a critical role for IL-6-STAT3-SOCS3 axis in the pathogenesis of IAV, and suggest that influenza virus has evolved a strategy to circumvent IL-6/STAT3-mediated immune response through upregulating SOCS3.

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A comparative study of persistent versus non-persistent candidemia among neonates

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Background: Candidemia is a rising problem in neonatal intensive care unit (NICU). Many risk factors have been identified which render this group of patients more prone to develop invasive candidiasis. However, it remains to be explained why the response to appropriate antifungal therapy (AAFT) results in different outcomes in neonates? This retrospective study was aimed to evaluate epidemiology and risk factors associated with persistent (PC) vs. non-persistent (NPC) candidemia in neonates despite receiving AAFT.

Patients & Methods: The study was performed by reviewing the files of the neonates with discharge diagnosis of candidemia during a period of 3 years (2013-2015). A case was defined as PC if *Candida* spp. was re-isolated from blood after ≥ 5 days of initiation of AAFT, while a NPC case tested negative for *Candida* on repeat blood cultures done within 5 days of therapy. The demographic features, potential risk factors and the outcome were recorded for each patient. All *Candida* isolates were characterized and antifungal therapy used in each case was recorded, which included amphotericin B alone or in combination with fluconazole and or caspofungin.

Results: A total of 118 neonatal candidemia cases were identified during the study period. Of these 74 (62.7%) and 44 (37.3%) had PC and NPC respectively. Analysis of data on demographic and neonatal characteristics revealed that the PC was more often diagnosed than NCP in neonates with gestational age (GA) of 24-28 weeks (81.1% vs. 38.6%), whereas NCP was more often seen than PC in babies with GA of 29-33 weeks (52.3% vs. 16.2%). Similar comparison was observed in neonates with birth weight (BW) of ≤ 1000 g having PC (78.4%) and NCP in 29.5% cases. On the other hand, patients with BW of 10001-1500 g had NPC (43%) more often than PC (12.2%). No difference was observed in the two groups, when risk factors such as central venous catheter, intubation, total parenteral nutrition and bacterial infection were compared. *C. parapsilosis* (38/118) was the most common species isolated from both PC (51.4%) and NPC (36.4%) groups whereas *C. albicans* was isolated from 13 cases. In NPC and PC groups, 31 (70.5%) and 17 (23%) neonates were treated with amphotericin B alone, respectively whereas different combinations of AAFT were more often used in the PC group. Mortality rate was 58.1% in PC as compared to 20.5% in the NPC group.

Conclusions: Although *C. parapsilosis* was found to be the most frequently isolated species among both PC and NCP cases, mortality rate was significantly higher in the former group despite receiving one or multiple AAFT.

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Better Care at Home’: Is it a cultural barrier in utilizing maternal health care services among currently married women in India

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Objective: The need for culturally appropriate health facilities is core to WHO’s mandate on ‘Health For All’ and considered pertinent to care during pregnancy, childbirth and postnatal period. But due to the geographical diversity there exist different cultural beliefs and practices especially on health care. Cultural factors like beliefs exert an important factor in accessing health care services, choice, and practices. Therefore the study intends to analyze the perception and practices of maternal health care utilization, the reason for non institutional delivery and skilled birth attendant for last delivery among the Indian women.

Method: Study uses India Human Development Survey 2011-2012 (IHDS-II). IHDS-II covered issues on maternal health care, education, employment, economic status, marriage, fertility, gender relations, etc. It was jointly conducted by the University of Maryland and the National Council of Applied Economic Research (NCAER), New Delhi, India. Present study is based on 13,832 currently married women of 15-49 years, who gave birth during last three years of the survey. Bivariate statistics are used to assess the association, and bivariate probit model is applied to know the joint probabilities of unskilled birth attendant and home delivery among women.

Results: It is found that the main reasons for women resort for home deliveries are because of cultural factor (62%) followed by lack of awareness. Result reveals that 43% of deliveries are attended by friends/relatives and 36% by traditional birth attendants. Bivariate probit model displays that women with higher education, higher income and urban residence are more likely to go for skilled birth attendant as well as institutional delivery; whereas women with higher parity and no ANC visit are less likely to either go for institutional delivery and skilled birth attendant ($p < 0.01$). One of the interesting findings is that women who reported that they did not avail skilled birth attendant as well as had home delivery are less likely to report delivery and post partum complications. The joint probabilistic from the model shows that 22% women will neither avail skilled birth attendant nor institutional delivery.

Conclusion: Non-institutional delivery poses a great risk for survival to both mother and child, and challenge to the Government. In India, although there are various programmes designed to improve maternal and childhealth, for a large proportion of women it is customary to deliver at home without any skilled birth attendant. In the absence of complications, in many parts of the country, it is not culturally acceptable to visit health care. Such culture and behaviour is the challenge in achieving the Sustainable Development Goals (SDGs) no. 3 - to improve maternal and childhealth.

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Assessing risk of shallow tubewell water for drinking related to point sources of pollution in rural Bangladesh

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Although a remarkable portion of population has gained access to improved drinking water sources in the last two decades, sustainable and safe water use for drinking purpose is becoming a major challenge related to sources of pollution including waste dumping points. Sanitary inspection of tubewells recommended by the World Health Organization (WHO) assesses the presence or absence of observable remedial sanitary hazards, which in turns provides the potential risk of microbial contamination of inspected tubewells. A total of 26,229 tubewells from 40 selected upazilas covering four hydrological regions of Bangladesh were inspected to determine the risk of selected shallow tubewells (depth<30 m) used for drinking purpose. A significant proportion of sampled shallow tubewells had a latrine or a pollution source within 10 m of tubewell, and/or cracked/damaged platform which may enhance the possibility of microbiological contamination of tubewell water. Over two-thirds of the inspected tubewells was at medium to high risk according to the WHO's sanitary inspection guidelines, having critical issues regarding placement, design, construction and maintenance of tubewells, all of which may facilitate the contamination of part of the aquifer from which the tubewell draws water. Furthermore, only 4% of households reportedly purify water before drinking, which increases the risk of waterborne diseases among rural population. As achieving the safety of water services through reduction of contamination is the key to improve the household environment followed by public health, proper guidelines for the installation of tubewells considering sanitary inspection should be followed. Proper distance between tubewell and potential sources of pollution including latrines, waste dumping points, contaminated ditches/ponds, etc., must be followed strictly along with soil texture and direction of groundwater flow. It is essential, water should be treated before drinking.

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Contraception use and abortion trend in South Asia: A systematic review

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Background: Unintended pregnancies are a major public health issue worldwide resulting in numerous complications every year. Unintended pregnancies are closely related to low utilization of contraceptive methods. Abortion is considered as solution to the unintended pregnancies however, most of them are performed in unsafe condition covertly. Unsafe abortions exist in all countries regardless of their economic status, religious and cultural beliefs. Situation is worse in case of developing countries like Bangladesh, India and Pakistan.

Aim of the study: This study aimed to explore the reasons of usage or non-usage of contraceptive methods and abortion procedures by women of reproductive age (15-49) in developing South Asian countries involving Bangladesh, India and Pakistan in between the years of 2000 and 2015.

Method: A systematic review was conducted to reflect upon the aim of this study through thematic analysis. 8 original papers of qualitative studies were selected for this review that met the inclusion criteria after extensively searching different databases. Quality of the included studies was appraised using CASP checklist for qualitative studies.

Findings: This review accumulated six themes that recurred in the 8 original papers. Themes include stigma related to birth control, fear, misconceptions and lack of information, family's influence, economic hardship, women's health and service providers' role. All of these themes related to the research aim to explore the reasons of usage or non-usage of contraceptive methods and abortion procedures by women of reproductive age in Bangladesh, India and Pakistan.

Conclusion and Implication: This study observed that social stigma, intimate partner's influence, misinformation and unavailability of the birth control services are predominant factors for women to decide their reproductive choices. Interventions related to health education, communication and promotion could offer a possible solution for the communication gap of service providers and women in need of birth control measures. In this seminar, I will discuss the themes that emerged through this systematic review which influence contraceptive usage and preferred abortion procedure of women in Bangladesh, India and Pakistan.

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Access to Information and Attitudes towards Abortion Legislation; is there an association?

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Abortion is legally permitted in Sri Lanka, only if it is performed to save the mother's life. However, it is estimated a large number of induced abortions take place in Sri Lanka. This study aims to understand the public attitudes towards abortion legislation and influence of access to information in determining attitudes towards abortion legislation in Sri Lankan Context. A cross sectional community based study was conducted among males and females between 19 to 49 years of age, residence in Colombo city at least for one year. A structured interview schedule was administered among representative sample of 743 respondents recruited using multi-stage stratified, cluster sampling method. Descriptive statistical analysis and non-parametric hypothesis testing were performed using SPSS software. A majority agreed to legalize abortion for rape (65%), incest (55%) and pregnancies with lethal fetal abnormalities (53%). However, less than 07% of respondents agreed to legalize induced abortion for other reasons such as contraceptive failure, bad economic conditions, on request, etc. The most common source of information on abortion was informal discussions, followed by the mass media. Access to information on abortion through newspapers, leaflets/handouts, TV/Radio programs and news, internet and informal discussions shows a positive association with liberal attitudes towards induced abortion. Access to mass media shows the highest influence in determining abortion attitudes. In conclusion, respondents demonstrated conservative attitudes towards induced abortion. Access to information is positively associated with the liberal attitudes towards induced abortion

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