International Journal of Clinical Obstetrics and Gynaecology

ISSN (P): 2522-6614
ISSN (E): 2522-6622
© Gynaecology Journal
www.gynaecologyjournal.com
2024; 8(6): 133-139
Received: 08-10-2024
Accepted: 09-11-2024

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Socio-demographic, and attitude factors in safety issues of self-administered medical method of abortion: A cross sectional study at Hassan, Karnataka., India

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DOI: https://doi.org/10.33545/gynae.2024.v8.i6b.1553

Abstract
Introduction: Unsafe abortions are one among the causes of maternal morbidity and mortality in India. Medical abortion with mifepristone and misoprostol (MMA)is safe and effective method for termination of pregnancy when practiced under medical supervision.
Self-administration of MMA, using an inappropriate drug/dosage, non-awareness of complication, delay in seeking medical help are major hindraces that make MMA unsafe. This study was done to evaluate the women's knowledge, attitude and practices and sociodemographic factors among women with self-administered MMA and its consequences.
Aim: To study the knowledge, attitude, behavioural practices and socio demographic factors among women with self-administered MMA and related consequences.
Methodology: A community based cross sectional study at Sri cahamarajendra government MCH hospital, HIMS, Hassan, Karnataka, India among 108 women with self-administered medical abortion (MMA) in 2 years by interview using interviewer administered questionnaire.
Results: *Among 5.4% (108)of obstetric ICU admissions,* Mean age group of subjects was 24yrs , 96% were married, among women with unmet need of contraception,81% were multi-parous,44% belonged to low socioeconomic status and 68% had educational status above high school.89% with unmet need for contraception did not practice safety for induced abortion, 52% procured MMA drugs from pharmacy without prescription,62%adopted post abortal contraception(56% progesterone injection, 32% intrauterine contraceptive devices and 12% permanent sterilization).Shock , need of Blood transfusion in 30%, sepsis and antibiotic use needed in 100%,78% with RPOC Needed surgical intervention ,missed molar gestation (1 case) and ectopic pregnancy in 2 cases indicate dangerous situation.
conclusion: Majority of the women with unmet need of contraception had poor awareness and practice of safe MMA. Inadequate knowledge, Misguidance by untrained person, associated social stigma, easy availability of abortion pills over the counter without prescription were major social factors in hospital admissions. High complication in self MMA group indicates regulation on sale of MMA kits without prescription.

Keywords: Self MMA, knowledge, attitude, practice, post abortal contraception, unmet need

Introduction
Abortion is defined as the spontaneous or induced termination of pregnancy before the period of viability. An abortion can occur spontaneously, in which case it is usually called a miscarriage, or it can be purposely induced. Medical abortion with mifepristone and misoprostol is safe and effective for termination of pregnancy when practiced under medical supervision. Abortion related complications amount to 8% of maternal mortality (NHFS).
Government of India permits medical method of abortion upto 63 days that may be extended by specialists later on. Despite clear guidelines, due to easy and illegal accessibility, many women self-administer these drugs. Some consider it as a method of birth spacing and depend on it without knowing its complications ranging from severe haemorrhage to death. Medical abortion is safe when done under supervision but self-induced abortion by self-administration of abortion pills has high complications rate. It is important to understand if a woman can safely and effectively induce abortion without supervision from a health care provider, it is possible that self-administration may increase the chance of her using an incorrect dose of medicine or not recognizing when she is experiencing a complication, such as infection or heavy bleeding.
WHO revised the Guidelines (2022) for Comprehensive Abortion Care, aimed at standardizing

for quality care of women's, primarily to minimize unfavourable outcomes such as maternal death, and other major complications. The Government of India integrated comprehensive abortion care services as an intervention for maternal welfare. Mifepristone and Misoprostol are "Schedule H" drugs and are to be sold in retail on the prescription of a Registered Medical Practitioner only [3]. Abortion pills are sold over the-counter without doctor's prescriptions in India. as self-administered medical method of abortion (self MMA). The self MMA user women, with no knowledge on eligibility, dosage, complications may experience complications such as heavy blood loss causing severe anemia, incomplete abortion, septic abortion, shock and septicemia, Nearmiss status, increased surgical intervention, blood transfusion related complications and maternal mortality. MMA method for induced Abortion has a success rate of about 93-98% with client satisfaction of 95% and is dispensed at Government run hospitals by trained health care workers under comprehensive Abortion care services (CAC) that provide free counselling, drug dispensing and contraception.

Access to information is a key determinant of safety in MMA abortion. The provision of adequate information about safe legal abortion is crucial to protect women's health and safeguard their human rights. This study was conducted with the objectives of assessing the knowledge, attitude and practice regarding abortion to evaluate socio-demographic profile of women seeking abortion like age, parity, socioeconomic condition, education, duration of pregnancy complications of the termination of pregnancy and practices leading to unsafe self-administered abortion pills and practice of concurrent acceptance of contraception.

Methodology

This was a hospital based, cross sectional ,observational study with the data collected from women attending outpatient department of OBG and inpatients admitted in the emergency ward, and OPD ,Sri Chamarajendra government MCH Hospital, Hassan Institute of Medical Sciences, Hassan, Karnataka ,India, for a period of 24 months duration among 108 subjects Who were interviewed using interviewer administered questionnaire and proforma of content outcome.

After obtaining approval from the Institutional Ethics Committee, the participants fulfilling the inclusion criteria were enrolled for the study after taking informed consent. Interviewer administered questionnaire was employed to collect data from the participants. The socio-demographic parameters, source of pill procurement, clinical presentation, medical management or surgical intervention, complications, need of blood transfusion, transfer to ICU, Near miss situation and result, and the acceptance of concurrent contraception were analyzed. In knowledge component analysed- awareness about medical methods of abortion, where and who can conduct safe methods of abortion, dosage, eligibility, complications of medical methods of abortion and post abortion care. In attitude component observed, safety of self administered MMA by completeness of abortion, willingness for post abortal contraception were analysed. In practice component, adherence to safety procedure by subjects such as prior counseling, consent, asepsis, appropriate method, dose and route of MMA, whether prescription was used for MMA kit procurement, approach for complications following MMA, source of information on MMA, choice of post abortal contraception were observed and analyzed.

Results

Socio demographic characteristics of subjects were analyzed with knowledge, attitude and practices towards medical methods of abortion. Unsafe self-induced MMA amounted to 5.45 of total Obstetric ICU admissions at the SCH Government MCH hospital, HIMS, Hassan, Karnataka. Following observations were made among self-induced MMA cases admitted in OBG ICU.

Sociodemographic characteristics

1. **Distribution of cases:** All self MMA were analyzed with knowledge, attitude and practices towards awareness of medical methods of abortion. Among subjects,13% belonged to 15-20years, 50% to 21-25years, 25% to 26-30years and 12% belonged to 31-35years.most women were urban dwellers, >25% were in lower class economic group,32% had low education as shown in table 1,2,3. Most women related self MMA to failure of different contraception including practice of safe period as shown in chart7. and indication as in chart8.

Table 1: Provides an overview of the demographic characteristics of the study participants in the cross-sectional study conducted at HIMS, Hassan.

Demographic Variables	categories	Frequency
Age Group	15-20	13
	21-25	50
	26-30	25
	31-35	12
Marital Status	Married	96
	Unmarried	4
Parity	Gravida1 P0	10
	P1	9
	P2	58
	P3 or More	23
Residential Area	Urban	82
	Rural	18
Socioeconomic Group	Grade 1	22
	Grade 2	34
	Grade 3	20
	Grade 4	15
	Grade 5	9
Education	Illiterate	18
	Primary	14
	High School	39
	Graduation	29

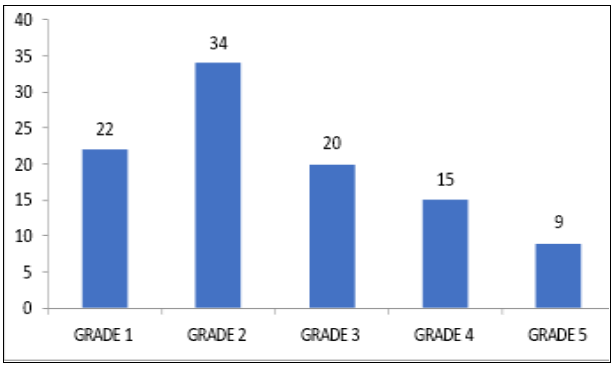

Chart 1: Socioeconomic Group

2. **Knowledge:** Out of 108 participants, 52% were aware about the medical methods of abortion whereas 48% were not

aware about the medical methods of abortion. 12% were aware safe abortion services should be conducted in hospital, 33% that it should be conducted at a health centre, 33% thought it should be conducted at a private clinic whereas 22% believed it should be conducted by self-medication but had no skill trained HCW as informants.18% were aware that safe abortion services should be conducted by a doctor, 3% thought it should be conducted by a nurse, 24% thought it should be conducted by a pharmacist whereas 55% thought one can take self-medications for abortion.70% knew safe abortion services could reduce the risk of women's reproductive health. 12% had knowledge about the complications of medical methods of abortion, 78% had no information about the complications of abortion .71% had knowledge about post abortion care whereas 29% did not know about post abortion care, as seen in table 4,5,6. about 18% were aware that safe abortion services should be conducted by a doctor, 3% thought it should be conducted by a nurse, 55% procured MMA kits from pharmacy without prescription without health assessment, and consent. 79% knew safe abortion services could reduce the risk of women's reproductive health. 10% had knowledge about the complications of medical methods of abortion, 78% had not heard about the complications of abortion whereas 12% didn't know about the complications of abortion. 91% had knowledge about postabortion care whereas 9% did not know about post abortion care (table 2).

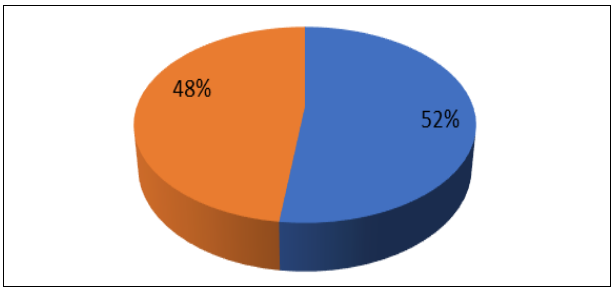

Chart 2: Are you aware about the medical methods of abortion?

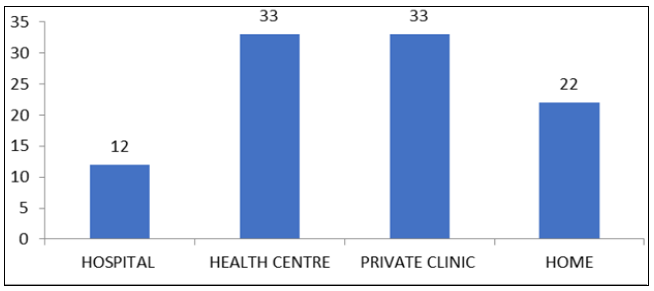

Chart 3: Where safe abortion services can be conducted?

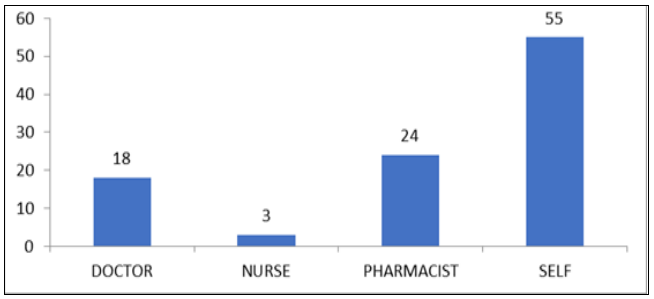

Chart 4: Who can conduct medical methods of abortion?

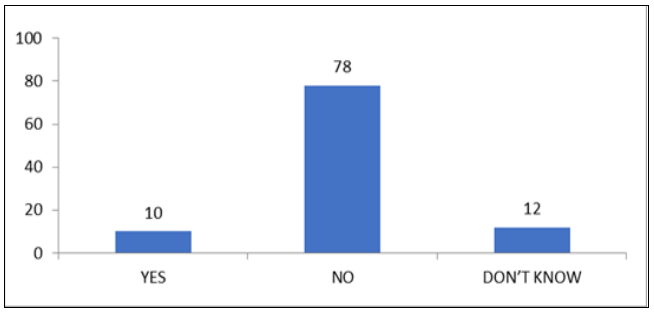

Chart 5: Heard about the complications of medical methods of abortion

Table 2: Focuses on participants' knowledge and attitudes about medical methods of abortion (MMA) and associated factors

Question	Response	Frequency
Medical methods of abortion are safe, and voluntary abortion should be legal and accessible?	Yes	10
	No	90
Do you think safe abortion services are necessary?	Yes	60
	No	40
Induced abortion can be carried under medical supervision?	Yes	89
	No	11
Do you think family planning methods can prevent unwanted pregnancies?	Yes	85
	No	15
Willingness for post-abortal contraceptives?	Yes	27
	No	73
If yes, which type of post-abortal contraceptives will you adopt?	IUCD	32
	Sterilization	12
	Progesterone injection	56
Will you recommend a friend for self-induced MMA?	Yes	78
	No	22

3. **Attitude:** 82% thought that medical methods of abortion is safe and voluntary abortion should be legal and accessible whereas 18% thought medical methods of abortion is not safe 75% thought that safe abortion services is necessary whereas 25% thought safe abortion services is not necessary. 85% thought family planning services can prevent unwanted pregnancies whereas 15% thought family planning services cannot prevent unwanted pregnancies(chart6) 62% were willing for concurrent contraception, whereas 38% we're not willing for concurrent postabortal contraception, 32% wanted to come after some time, 20% wanted to come for sterilization later as shown in chart 7.

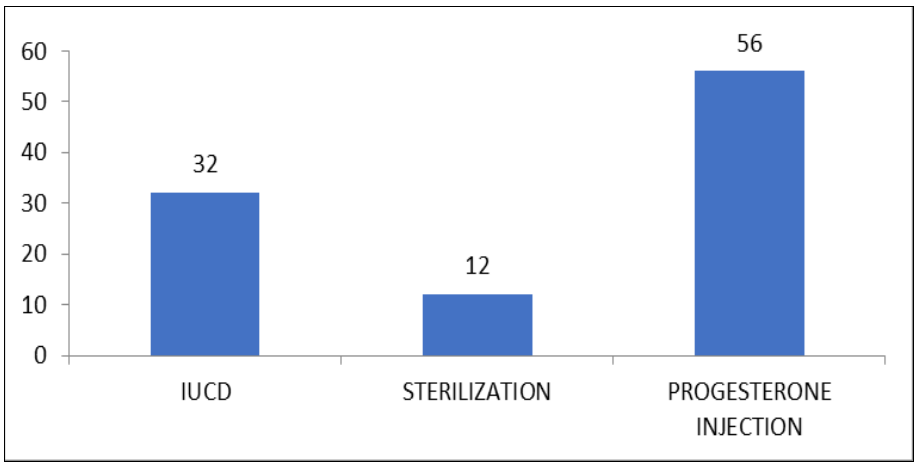

Chart 6: If yes which type of post abortal contraceptives will U adopt

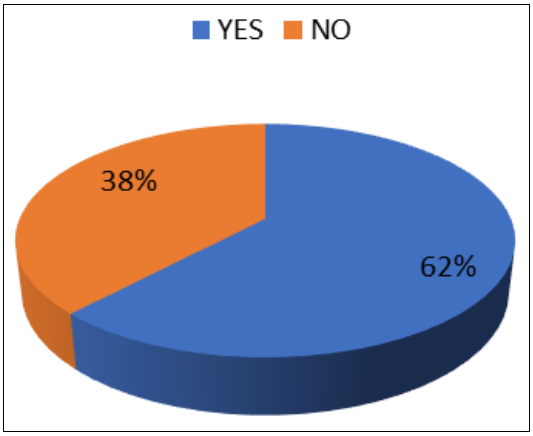

Chart 7: Willingness for postabortal contraceptives?

4. **Practice:** 89% had adopted the medical methods of abortion of which 64% were counselled about the dose and route of administration of drugs whereas 36% were not counselled about the dose and route of administration of drugs.52% did not have any prescription about the drugs taken for medical methods of abortion whereas 48% had it. 52% did not have any prescription about the drugs taken for medical methods of abortion whereas 48% had prescription about the medical methods of abortion.

In our study the data of consecutive 108 women were sought and results were analysed. Of them, 81% were multipara, 82% were urban dwellers and 44% belonged to low socio-economic status. Major source of procurement was patient herself from the pharmacist for all women.

Unplanned pregnancy was the basic reason behind pill intake for all women.58% of women knew there were provisions for abortion in public hospitals. 38% knew abortion should be conducted by a trained doctor only. 70% of women knew there were medicines available for abortion.

Only 36% were counselled about the proper dose and route of administration.25% knew about the complications of unsafe abortion. 38% had excess bleed, 22% had septicaemia, 35% had infections, 4 patients were diagnosed as ectopic and one patient as missed abortion.

Blood and blood products transfusion was needed in 32% of cases. 62% were willing for postabortal contraception. 56% took progesterone injection, 62% were willing for post abortal contraception,56% took progesterone injection, 20% people adopted intrauterine contraceptive devices and 6% adopted sterilization,18% said they would return later.

Table 3: shifts focus to practices and complications associated with self-administered MMA

Question	Response	Frequency
Whether you had adopted medical methods of abortion?	Yes	89
	No	11
Were you counselled about the dose and route of administration of drugs?	Yes	66
	No	34
Reason for MMA	**Categories**	**Frequency**
	Unwanted pregnancy	52
	Failure of contraception	24
	Was not ready for the responsibility	14
	Other reasons	10
What was the drug used to induce abortion?	Misoprostol	10
	Mifepristone	8
	Both	81
Route of the drug given	Oral	77
	Vaginal	29
	Rectal	12
	Sublingual	7
Whether prescription was shown?	Yes	22
	No	78
Who performed the induced abortion?	Self	25
	Parent	6
	Husband	20
	Friend	11
	Relative	4
	Doctor	15
	Others	4

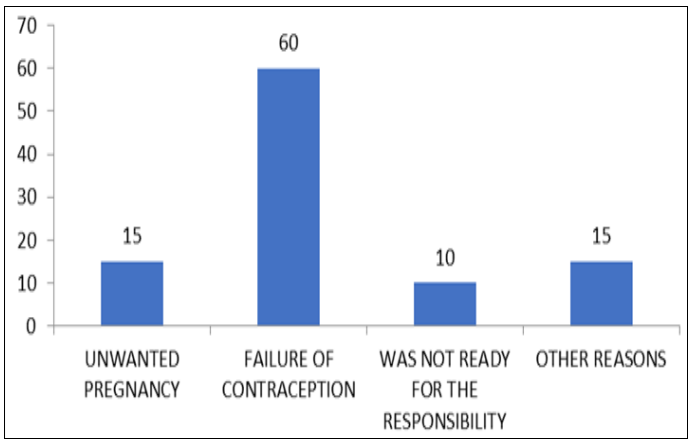

Chart 8: Reason for MMA?

5. **Complications of self MMA:** 68% had health issues after the abortion, of which 52% had excessive bleeding and needed blood transfusion, 4% had septicaemia,30% had infection, 2% had ectopic pregnancy 56%% had retained products of conception and one maternal death. As shown in chart 9.

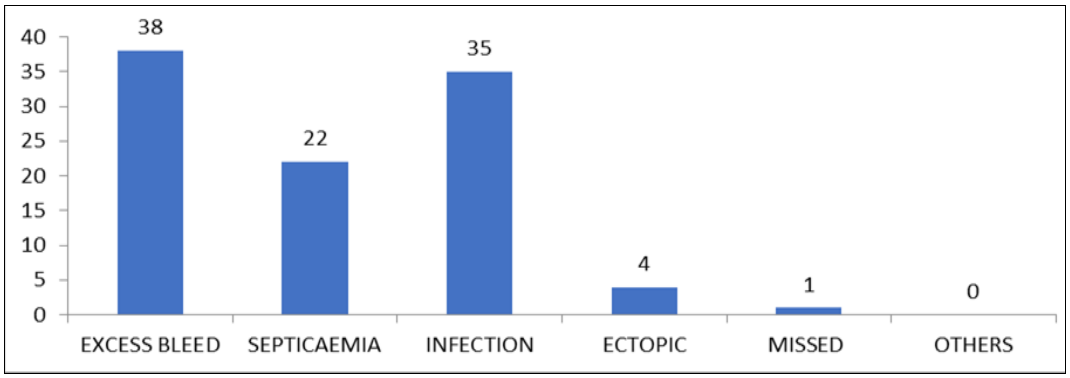

Chart 9: If yes, what was the complications U Had**?**

Discussion

In present observational study on sociodemographic analysis of Factors for Self MMA and aftermaths of Self-induced MMA, it was observed that lack of awareness on availability of safe abortion services, eligibility criteria for MMA, complications of self MMA medication, and advantages of contraception after abortions, sources of knowledge on MMA, were major socio demographic factors in high admission at obstetric ICU, that is preventable. Unnecessary, avoidable admissions in obstetric ICU not only creates additional burden to Nursing staff and medical persons but also poses risk to life of MMA users, thereby increasing Maternal morbidity and mortality, that is preventable by health seeking behavior of clients seeking Abortions for unmet needs of contraception. Unmet need of contraception was high in study group and most women quoted failure of contraception as the need for Self MMA and 10% of women did so as they did not want to take additional responsibility of another child. In our study the data of consecutive 108 women were sought and results were analysed. Of them, 81% were multipara, 82% were urban dwellers and 44% belonged to low socio-economic status. Major source of procurement was patient herself from the pharmacist for all women.

Unplanned pregnancy was the basic reason behind pill intake for all women.58% of women knew there were provisions for abortion in public hospitals. 38% knew abortion should be conducted by a trained doctor only. 70% of women knew there were medicines available for abortion. Only 36% were counselled about the proper dose and route of administration, 25% knew about the complications of unsafe abortion. 38% had excess bleed, 22% had septicemia, 35% had infections, 4 patients were diagnosed as ectopic and one patient as missed abortion.

Verma et al [2] conducted a study of MMA cases at Udaipur among 100 women who came to the OPD with self-induced medical abortion and reported .58% of women knew that there were provisions for abortion in public hospitals but only 38% of them were aware that abortion should be performed by a trained doctor.70% of the women knew about MMA, but only 20% were aware about procurement source at government hospital, 69% had information that other methods such as D and C could be done in hospitals at private and public sector,25% knew the complications related to unsafe abortion, only 10% knew that abortion is legal,66% of women consider MMA to be safe and 27% of women consider contraception is necessary.

Dawani *et al*. [6] conducted in his observational study, Kanpur, a total of 587 women were included in interview, Majority of women were in reproductive age group (54.51%) and were married (81.43%),52.63% did not confirm their pregnancy before self-medication. Total 32.02% had consumed the abortion pill for amenorrhoea > 9 weeks, to avoid surgical intervention for its easy availability without a prescription, anemia (92.5%) followed by sepsis were common complications.

Dwa *et al* [4] conducted a descriptive among 223 cases, 37 (16.6%) were self-induced abortion with abortion pills. The mean gestational age at time of intake of pills was 13weeks. The majority were diagnosed with incomplete abortion14 (37.8%) followed by septic abortion 8 (21.6%). A surgical evacuation was performed in 25 (67.6%). Anaemia was observed in 19

(51.3%) with severe anaemia in 4(10.8%). Blood transfusion was carried out in 14(37.8%). Post abortive contraception was accepted by only 16 (42.3%). The complication rate was in par with present study. Showing Blood and blood products transfusion was needed in 32% of cases. 62% were willing for postabortal contraception. 56% took progesterone injection, 32% people adopted intrauterine contraceptive devices and 12% adopted sterilization.

Saswathi Swain *et al* [7] reported that 91.8% were married,78.9% were in low socioeconomic status,91% procured MMA over the counter,88,6% had excess vaginal bleeding,12.2% sepsis,47.2% needed blood transfusions and a maternal mortality of 2.4% due to sepsis, shock and ARF. Similarly, Sukhwinder singh *et al* [8] reported 41.54% in incomplete abortion, 6.54% of septicaemia and 1.15% of failed abortion.7 Similar study on consequences of self-prescription showed that 70.2% had incomplete abortion and 10.8% had failed abortion, shock in a rupture ectopic pregnancy.

Bekale *et al* [10] conducted a cross sectional study at Ethiopia among 232 students obsewrved in the KAP study in community the age of the study participants ranged from 18 to 26. One hundred and thirty-four (62.9%) participants claimed to know what medication abortion is. From the 134 (62.9%) of the respondents who claimed to know what medication abortion means only 99 (73.9%) knew exactly what medication abortion means. The major source of information about medication abortion was teachers 100 (74.6%) followed by media (radio, TV, newspaper) 39 (29.1%). The majority of respondents knew misoprostol 95 (42.8%) and mifepristone 67 (30.2%). The majority 137 (64.3%) did not support that government should allow abortion in this country and only 25 (11.3%) would consider abortion if they have unplanned pregnancy. Ninety (40.5%) of study participants had sexual experience, 11 (5%) became pregnant and 7 (3.2%) had an abortion in 5 respondents (100%) had MMA.

In our study the data of consecutive 108 women were sought and results were analyzed. Of them, 81% were multipara, 82% were urban dwellers and 44% belonged to low socio-economic status. Major source of procurement was patient herself, acquired from the pharmacist for all women. Unplanned pregnancy was the indication MMA self-medication, 58% of women knew there were provisions for abortion in public hospitals,38% knew abortion should be conducted by a trained doctor only. 70% of women were aware of MMA. Only 36% were counselled about the proper dose and route of administration.25% knew about the complications of unsafe abortion. Complications of self MMA were 68% had health issues after the abortion, of which 52% had excessive bleeding and needed blood transfusion ,4% had septicaemia,30% had infection, 2% had ectopic pregnancy 56%% had retained products of conception and one maternal death. Blood and blood products transfusion was needed in 32% of cases, 62% were willing for post abortal contraception, 56% took progesterone injection, 20% people adopted intrauterine contraceptive devices and 6% adopted sterilization,18% said they would return later.

This emphasis the need for creating awareness among public through media and Posters, and creating skilled population of health care workers and thereby reduce additional work load at emergency obstetric units, who can provide other emergency obstetric services effectively by preventing the admissions at hospital due to complications of Self-induced MMA. Awareness is needed for effective comprehensive Abortion care and implementation of post abortal services, among women seeking abortions due to unmet need of Contraception, may improve women's health.

Conclusion

The results of the study are an eye-opener. The over the counter availability of the abortion pill must be checked and focus should be made on counselling the women regarding the use of regular contraception practice. Medical Abortion is Effective and safe when done under supervision by Skilled health care workers with standard protocols. But self-induced abortion done by MMA pills has high complications rate, that implies to multiple factors such as lack of awareness of comprehensive abortion care services and abortion laws, lack of awareness on contraception, associated social stigma, easy availability of abortion pills over the counter and many more. The over the counter availability of the abortion pill must be checked and focus should be made on counseling the women regarding the use of regular contraception practice Medical Abortion is safe if done under supervision by authorized personal in authorized institution following authorized standard protocols. Therefore, Regulation on availability of MMA without counseling and prescription is need of time for reducing maternal mortality and mortality.

Declaration

Conflict of interest

There is no conflict of interest.

Acknowledgement

The authors would like to thank -The Medical superintendent, HIMS Hospital and all participants who were involved in this research study.

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How to Cite This Article
Priyanka G, Banapurmath STR, Paul N. Socio-demographic, and attitude factors in safety issues of self-administered medical method of abortion: A cross sectional study at Hassan, Karnataka., India. International Journal of Clinical Obstetrics and Gynaecology. 2024;8(6):133-139.

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