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Knowledge and Skills of Community Midwives regarding Family Planning

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Dedication

This thesis is dedicated to my parents, who taught me that even the largest task can be proficient if it is done one step at a time, especially to my mother's unconditional love and prayers; I have the chance to complete this thesis. It is also dedicated to my husband Mr. Ali Asghar, his endless love, support and encouragement throughout my study period. Furthermore, my beloved children: Saba, Urooj and Asad, whom I can't force myself to stop loving. I also dedicate to all my family, the symbol of love and my friends who appreciate me.

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Abstract

Community midwives play a vital role in disseminating knowledge and providing advice about different contraceptive techniques to the couples interested in family planning. This study was conducted to assess the current level of knowledge and skills of the community midwives in the locality of District Multan, Punjab, Pakistan and to improve their knowledge and skills by intervening with the study subjects. For this purpose, a sample of 25 community midwives was recruited to participate in this study. The study followed a quantitative approach and interventional design to assess whether the intervention had significant impact on the knowledge and skills of the study subjects. A close ended questionnaire was developed containing questions regarding the basics of family planning, prevailing contraceptive techniques, advantages and disadvantages of each technique and complications associated with some contraceptives. To start with, a pre test was administered with the study subjects and its results were recorded. The intervention was conducted consisting of teaching sessions, presentations, practice sessions and demonstrations for two days. A test was conducted during the intervention, at the end of the intervention activities of the first day and another test was administered immediately after the completion of intervention on the second day. The results of the tests were recorded. The analysis of data was done by comparing means through different statistical tests and it was found that the mean test scores of the participants in the pre-test significantly differed from the mean test-scores of tests conducted during and after the test. It was also found that skills of the study subjects were improved after going through the intervention.

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Chapter 1

Introduction

1.1 Introduction

Family planning, one of the most important millennium development goals, is hailed as a significant achievement in public health during the twentieth century. The worldwide acceptance to family planning has increased to 60% of the exposed couples. Family planning programs in the developing nations began in 1960s in order to improve child survival rates as it is directly linked to the financial development of these countries (Coale & Hoover, 1958).

The number of developing countries with official guiding principles rose from 2 (1960) to 74 (1975) and then to a staggering 115 by the year 1996, which can be seen as an important improvement according to UN (2004). The international funding also increased in the same manner (UN, 1988). The use of contraceptives to decrease fertility rate and the reproductive revolution was witnessed by many Asian and Latin American countries by 1990; most obvious of them were Bangladesh, Nepal, and Saharan Africa.

By the end of 2000, the proportion of the contraceptive dependent married women increased from about 10% (in 1960) to 60% (in 2000), indicating a major success in the form of 50% less birth rate per female (UN, 2004). The successful adoption of contraceptives and natural and artificial birth control methods is largely dependent on the community midwives who were responsible for spreading knowledge about the contraceptives and other birth control methods to the women (Kopp Kallner et al., 2015; Lopes, Titulaer, Bokosi, Homer, & Ten Hoope-Bender, 2015; Orange-Watson & Hanson, 2005).

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Family planning has the potential to the rapid increase in the overall population and can decrease poverty and subsequently resolve the food security issue. It is important in those regions that have lesser development and high unemployment rate. The Sub Saharan Africa is an example where the large family size has increased the population levels that are consuming about one dollar per day from 164 million to 316 million during the period 1981-2001, respectively. Therefore, a worldwide awareness program should be initiated, and equally important is the aspect of availability and ease of access to information about Family Planning Methods such as oral contraception, condoms, IUDs, implants, tubal ligation and vasectomy (Karacam & Kitis, 2005; Y. M. Kim et al., 2003).

Registered community midwives and certified nurse midwives have primary access to the mothers and married women. Therefore, they are in principal position to provide information about family planning, its advantages and disadvantages, natural family control methods e.g. breastfeeding and contraceptives as birth control or child spacing methods (Y. M. Kim et al., 2003; Lim & Zenack, 2000). The knowledge of family planning methods and its dissemination is in line with the basic philosophy of midwifery theory and practice that advocates no intervention in the normal processes as reported by Fehring, Hanson, and Stanford (2001).

With the development of modern contraceptives and birth control methods, there has been an ever increasing realization that community midwives` services are pivotal in different areas including sexual, reproductive, nutrition during pregnancy and nutrition of new born and health of the new born. The returns from investment in development of a motivated, knowledgeable and proficient midwifery workforce have been evident (Renfrew et al., 2014; Shetty, 2014).

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The report on State of the World`s Midwifery 2014 (UNFPA, 2014) revealed that midwives were able to provide 87% of the required essential care and information to women and their newborns when they were given training to international standards and were supported to perform in a supporting environment and functional health system.

Research has shown that over 50% of the un-intended pregnancies were caused due to incorrect or inconsistent use of contraceptives owing to their lack of knowledge about different contraceptive methods (Frost, Darroch, & Remez, 2007; Karaçam, Önel, & Gerçek, 2011). Moreover, different ethnic and racial groups have been reported to show different choice and consistency of using contraceptive methods. For most of the women, the main source of contraceptive knowledge is midwifery workforce visiting their areas and providing them knowledge and primary healthcare regarding reproductive life.

The selection and use of a family planning method or a contraceptive mainly depend on the clients` preferences, circumstances, beliefs and priorities rather than mere medical factors. For the efficient use of contraceptive methods, it is essential for women to have sufficient knowledge about their correct use and side effects. Most of the contraceptive methods are medically fit to be used by most of the women but barriers include inconvenience of use or associated side effects.

Therefore, family planning counseling provides the opportunity of informed choice to couples (Cameron & McCance, 2014; Hall, 2010; Young Mi Kim et al., 2005; Wood et al., 2013). Informed consent requires healthcare providers to inform couples regarding the family planning methods and it is entirely up to the clients to

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select and use any method. Informed choice is necessary for continued use of a method and clients` satisfaction.

Community midwives` role is to provide complete information about contraceptives, their advantages and disadvantages based on the reproductive health history of their clients. In light of the primary role of community midwives in providing information about contraceptive methods, the researchers have focused on the competence of midwives regarding family planning, contraceptives and relevant issues (Janowitz, Stanback, & Boyer, 2012).

The knowledge and skills of the community midwives regarding different contraceptives and basics of family planning should be assessed in order to make the family programs more effective and efficient. In developing countries like Pakistan, registered midwives are providing most of the information regarding reproductive health to their clients. Therefore, this study was designed to assess the current competence of the registered community midwives in the locality and conduct an intervention to improve their knowledge and skills to determine the impact of the intervention on the competence of midwives.

1.2 Significance of the Study

The role of midwives in disseminating knowledge about family planning is established. The current study provided an insight into the competence (i.e. both in terms of knowledge and skills) of the community midwives practicing in the country regarding family planning and dissemination of information about different contraceptive methods. Moreover, it measured the effectiveness of an intervention program is to improve their competency. The results of the study add to the current literature on family planning and role of midwives in making these programs

successful. The successful completion of the study not only helped to reduce the ever-increasing population in rural and in urban areas of Pakistan but also to prevent the frequency of unintended pregnancies and this could be achieved by training the local community midwives.

1.3 Research Aim

The aim of this research was to find out the present level of knowledge and skills of Community Midwives (CMWs) about family planning and improve their knowledge and skills through an intervention program.

1. 4 Research Objectives

Keeping in view the aim of this research, the following objectives were set for this research:

I. To evaluate the present information of community midwives about family planning preferences in the local community.

II. To identify the level of knowledge and skills of community midwives about family planning.

III. To intervene the study subjects for gaps in knowledge and skills.

IV. To evaluate the results of intervention in study subjects.

V. To put forth the results of the study and recommend the authorities to take appropriate action against the issue.

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Chapter 2

Literature Review

2.1 Introduction

Family planning programs have helped many countries to control their population and allowed parents to plan their next child by using contraceptives and other birth control methods. A detailed and in depth review of emerging literature regarding family planning, role of midwives in providing knowledge regarding contraceptive methods to clients and the competencies of midwives regarding family planning has been carried out and presented in this chapter.

2.2 Family Planning and Contraceptives

25 developing countries account for 80% increase in the global population including Pakistan (Kirimlioglu, Elcioglu, & Yildiz, 2005). In order to check this rapid increasing of population, the family planning has emerged as an effective tool. Different contraceptive methods including IUCDs (Intrauterine contraceptive devices), birth control pills, vasectomy and condoms have been introduced to avoid unintended pregnancies and plan the next child for couples (Otero-Garcia, Goicolea, Gea-Sanchez, & Sanz-Barbero, 2013; Owusu-Addo, 2015; Vanthuyne, Joyce, & Pittrof, 2014).

Most of the families are using traditional contraceptive methods and withdrawal technique to avoid pregnancy but these techniques are not as effective as modern contraceptives (Adetoro & Anate, 1988; Do Thi, 1999; Kwast, 1991; Smith & McLellan, 2014). Traditional control methods are being used despite the availability of modern methods and willingness of the families to avoid a large of number of children (Kirimlioglu et al., 2005; Smith & McLellan, 2014; Stern et al., 2015). A

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study reported that use of traditional methods decreased to 24% and more than 90% of the women were aware of the modern contraceptive methods and place to find them. 19% births were due to unintended pregnancies among women in Turkey indicating the need for family planning counseling (Do Thi, 1999; Karacam & Kitis, 2005; Otero-Garcia et al., 2013).

Inconsistent (Frost et al., 2007), incorrect (Aziz & Osman, 1999) and no use (Sloup, Suellentrop, & Kaye, 2009)of contraceptives have been reported in the literature. The choice of using a particular contraceptive method mainly depends on the client. The information regarding different contraceptives such as birth control pills, injectables, IUDs and vasectomy are provided through different means but couples are allowed to make an informed choice on their responsibility for the unintended effects of a family planning and contraceptive method (Fehring et al., 2001).

A research conducted in Nigeria explored the use of family techniques among community members of Kadunia state and reported that all community members used at least one family planning method. The study revealed that 85.8% of the subjects used oral contraceptive pill and contraceptive injections while over 50% also reported the use of intra-uterine contraceptive devices and a few were using locally available drugs for this purpose (Onwuhafua, Kantiok, Olafimihan, & Shittu, 2005).

The Demographic and Health Survey (2003) reported the utilization of different contraceptive techniques. According to this report, 43% subjects reported the use of modern methods, 24% reported use of curettage and 26.4% used withdrawal. It revealed that withdrawal was the least effective method and 46% participants reported

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to the unwanted pregnancy due to use of this method. Only 16.1% of Turkish women showed familiarity to emergency contraceptives (Mahy, 2003).

According to findings of Stanback & Twum-Baah (2001) knowledge of family planning is an essential factor in maintaining good health. Their study also revealed that this public message is directly coupled with service providers having basic knowledge of services. But it is not evident that the retailer is obliged to give inappropriate restrictions on their clients or conduct treatments that are medically worthless to use. Some other studies and examinations conducted in Ghana has been used to discover the other 46 facilities that are providing a schedule for household purposes to different companies that are at greater risk to their customers and are having some limitations and hurdles in medical services providing field (Agreement, 2006).

Interviewers documented 97 retailers and salesmen in 1994 and asked about their problems by asking questions and including open ended discussions. Their main aim was to highlight the techniques that are limiting this problem and investigating the companies that are aimed to provide different tactics for this. These salesmen and service providers imposed a wide range of restrictions to delay the needs of clients towards the services and products (Nachtigall, 2006).

Different types of concerns are present here about the safety of contraceptive users and their moral values and a lot of attention is required towards the foundation and basis of prescribing these products and services keeping in view the parity and age group (Otero-Garcia et al., 2013; Sahin & Sahin, 2003). A lot of these service providers claimed that these birth control methods could involve in and introduce complications in fertility in both gender and all ages and in future they could be in use

of lower age groups in ladies having reputable fertility that could use these contraceptives (Do Thi, 1999).

It is also evident that a lot of companies believed that contraceptives that are injected could enhance long-term infertility in females. Providers of these birth control pills and medicines also highlighted different health concerns as a cause of imposing accurate schedules of revisiting and resupply. Also, they give explanations for conducting routine laboratory tests (Aziz & Osman, 1999).

2.3 Competence of Midwives and Family Planning Counseling

According to Fehring, et al. (2001) the current position of the data obtained from certified nurse-midwives (CNMs) and their responsibility of promoting lactation leading to natural family planning, pregnancy spacing methods and amenorrhea is very important. A greater ratio of people between the concerned documented groups was found to consult midwives and using services of CNMs (Community Nurse Midwives).

Stern et al. (2015) conducted an exploratory and mixed method study involving 68 midwives responsible for providing counseling on contraceptives in primary healthcare. Midwives were provided information and learning material regarding the reproductive life plans (RLP) in family planning counseling. After three months, the midwives were invited to complete a post intervention questionnaire regarding contraceptive counseling. The participants of the study included young as well as old midwives having long and short experience of contraceptive counseling in Sweden. The study found that 68% of the participants used reproductive life plans while providing contraceptive counseling to their clients indicating that midwives gained knowledge from the intervention and applied it in their midwifery practice.

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Owusu-Addo (2015) conducted a research to explore the midwives` perceptions regarding their practice in Ghana. The study followed an exploratory design and involved 21 registered community midwives. Study utilized a semi-structured interview for collection of data and found that midwives were close association with women and could influence them regarding their reproductive health. The midwives were involved in weight management, nutrition of mother and newborns, prevention of infection and family planning counseling. The study concluded that midwives in Ghana had limited knowledge but they played critical role in health promotions and family planning counseling.

van Heesch, de Weerd, Kotey, and Steegers (2006) conducted a study in Netherlands to explore the view of practicing midwives on the need of providing preconception care to couples looking to plan a child. 129 midwives working in different primary health centers participated in the study. A postal questionnaire was sent to the midwives and it was found that over 90% of the midwives had knowledge about preconception care while almost 70% were providing this care to their clients. According to the view of the midwives, it should be included in their professional domain but they lacked knowledge and time to provide it.

A study conducted in Iran found that healthcare providers including midwives treated clients with respect when they sought counseling for family planning and contraceptives. However, the privacy of the clients was not respected. 54% of the clients showed dissatisfaction with the information provided by midwives. However, most of the clients had the informed choice to select the contraceptive method of their own choice. The study found that the clients were not informed regarding side effects and warning symptoms of contraceptive methods (Alizadeh et al., 2007).

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The study concluded that all aspects of family planning services required improvement in the areas such as communication skills of the midwives, privacy and confidentiality and the knowledge regarding the contraceptives, their advantages and disadvantages. The authors suggested to adopt multifaceted intervention programs for improving knowledge and skills of the midwives and other primary healthcare providers (Alizadeh et al., 2007).

The lack of awareness about contraceptives like birth control pills, injectables, IUDs, vasectomy, vaginal rings and condoms results in unintended pregnancy. Therefore, it is critical for midwives and other healthcare providers to enhance their personal awareness of different contraceptive methods and their effective use so that they can impart this knowledge to women seeking family planning counseling (D'Ambruoso et al., 2009).

D`Ambruouso (2009) also reported that primary healthcare providers should address the problems associated with unwanted pregnancies. Midwives can play a vital role in addressing these issues due to their primary role of providing health education to women and families. Y. M. Kim et al. (2003) explored the participation of midwives and family planning clients in the process of decision making and concluded that midwives showed weak interpersonal skills rather than technical skills.

2.4 Conclusion

From the review of relevant literature, it is concluded that family planning has been successful in several countries to control the rapidly increasing population. Family planning is often used synonymously with contraceptive methods used to avoid unplanned or unwanted pregnancy. Different contraceptive methods are being used by families in different regions for family planning and child spacing. The

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review also reveals the significant role of midwives in providing family planning counseling and creating awareness of different contraceptive methods, their use, advantages, disadvantages and side effects. Several studies have acknowledged the significance of midwives in family planning counseling but have identified the lack of necessary knowledge and interpersonal skills on the part of midwives. The review of literature also revealed that intervention programs have been suggested to improve the knowledge and skills of midwives regarding family planning.

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Chapter – 3

Methodology – Research Design

3.1 Introduction

Research methodology and design encompass all steps involved in a systematic research. This chapter presents the research methodology and design adapted to conduct the research on the role and knowledge of community midwives in family planning. It presents the settings, in which the study was conducted, sampling of the participants i.e. inclusion and exclusion criteria, data collection instruments and analysis of data.

3.2 Study Design

The study is based on quantitative approach involving an interventional approach and pre and post intervention tests to assess the effect of intervention. The pre and post intervention data was helpful in making comparisons between the knowledge and skills of the participants before and after the intervention program. For this purpose 2 day training and teaching program was developed and conducted with an aim to provide fundamental knowledge of the family planning to the participants of this study who were the community midwives in the locality of District Multan, Punjab, Pakistan.

The quantitative approach and interventional study was in line with the main aim and objectives of this study. It allowed the researcher to assess the knowledge and skills of the participants relevant to family planning before going through the intervention through data collected with the help of questionnaire based pretest.

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3.3 Study Settings

This interventional study regarding the knowledge of the midwives about basic principles and skills of family planning was carried out at the College of Nursing, Nishtar Medical College and Hospital, Multan, Punjab, Pakistan.

3.4 Target Population and Selection Criteria

The target population was the community midwives working in the locality of district Multan, Punjab, Pakistan. Community midwives practicing in this area belonged to different socio-economic background. The demographic characteristics of the sample are discussed in the next chapter.

The selection criteria for the participants to be included in the sample were: the participants of this study should be above the age of 18; they must have experience of working as community midwives for at least one year, they must have successfully completed the midwifery training from a recognized institute. The midwives having experience of less than 12 months were not considered. The midwives who were not willing to participate in the study were also not considered for the sampling purpose.

3.5 The Questionnaire: Pre and Post Test

There were two instruments for conducting pre and post tests including a multiple choice questions based questionnaire (Appendix III) and a checklist (Appendix IV) comprising necessary steps for various skills that must be possessed by a community midwife in order to successfully counsel for family planning. Both the instruments were used to assess the background information of community midwives before they underwent the intervention and training program.

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In order to assess the intervention, the same tests (i.e. questionnaire and checklist) were administered on the first day (i.e. during the intervention) and immediately after completion of the intervention on the second day (i.e. post intervention). The intervention comprised of lectures, presentations, demonstrations and other educational methods.

3.6 Sampling Methods

The target population for this study was the entire population of registered community midwives practicing in the locality. The registered community midwives were contacted to participate in the study by educating them concerning the purpose of this study. A total of 25 community midwives showed consent to participate in the study and they were recruited as the participants of this interventional study. Random sampling was used to take the sample of 25 community midwives from the list of the registered community midwives obtained from the office of the district health officer.

Initially, the sample of 35 community midwives was selected through random sampling but only 25 of the sample showed consent to participate in this research after they were told the purpose of the study and were assured about the ethical issues such as their anonymity, confidentiality and privacy. Therefore, the sample was reduced to 25 and the community midwives showing consent to participate in the study were recruited as study subjects of this research. The demographic record of these participants was collected through the demographic form (Appendix I).

3.7 Intervention: The Training Program

Considering the main objective of the research, the intervention program was designed. The main focus of the lectures and presentations was on basic concepts involved in family planning. Moreover, it also covered various contraceptive methods

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available for family planning, advantages and disadvantages of these methods and complications involved with different methods.

During the first day of the intervention, the lectures and presentations were given to the participants regarding the way contraceptives helped in avoiding unintended pregnancy and how they could help in planning gap between the births of two children. The presentations were given to enhance and improve the knowledge of the community midwives regarding the modern contraceptive methods including oral contraceptives such as birth control pills; intra-uterine devices (IUDs), vaginal rings as contraceptives, condoms, sterilization, injections and some implantable products.

The presentations and lectures were followed by discussion and question and answer sessions so that the participants could ask questions to understand what had been taught to them. These sessions were conducted in a disciplined and friendly environment to give the opportunity to the participants so that they could get clear and concise understanding of what was being studied. These knowledge sessions were made as productive as possible because they provided the basis for the tests during the intervention and after the intervention program.

The next step in the intervention program was the skill training to improve the counseling skills of the community midwives. It is important that the community midwives have effective communication skills to get the required background knowledge from the females to make their counseling effective and fruitful regarding family planning. Once they have required knowledge about different contraceptive methods with their advantages and disadvantages, they must possess the skills to convey the appropriate knowledge to the families interested in family planning.

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Therefore, the participants of the study attended training sessions where they were taught the ways to effectively implement and impart their knowledge to couples needing family planning advice. After the training sessions, the researcher gave presentations that were focused on the effective counseling techniques. Demonstrations of the role model techniques involving different steps of the counseling sessions were conducted.

The focus of the training program was to impart modern knowledge and skills to the participants so that their concepts of the family planning could be broadened. The purpose was to enhance their capability to impart the newly learned knowledge to a couple in the community regarding different methods of birth control, certain implications linked with each control method and pros and cons of each method.

The purpose of the training was to enable the community midwives to assess the requirements and sexual health of the couples and suggest most suitable family planning methods according to their needs. They were taught and trained about the birth control methods such as diaphragms, IUDs, contraceptive pills, vasectomy and condoms. They were trained how to provide a general idea of family planning, its importance and advantages to couples in the community. They were also taught about the emergency contraceptive methods, appropriate timing to start treatment in case of unsafe intercourse or missing the birth control pills and hormonal methods of birth control.

Another area of focus during the intervention was the importance of safe sex and hazards associated with unsafe sex. The participants were taught about sexually transmitted diseases (STDs), side effects of various control methods and feminine diseases such as breast cancer, a major disease among the women in Pakistan. It

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would aid their knowledge on the issues mentioned above and enable them to provide appropriate counseling to couples they would be engaged with in future.

3.8 Ethical Issues: Approval from Ethical Review Committee

The study involved certain ethical issues and the study design was presented in the ethical review committee for approval (Appendix V). The Ethical Review Committee (ERC) was headed by the District Health Officer. The committee was informed about the purpose, significance and advantages of the study for the long awaited goal of population welfare and provision of appropriate knowledge to the couples in the society. Similarly, the community midwives participating in this study were provided detailed information about the purpose, aims and objectives of this study and were asked to provide consent if they wanted to participate in this study on their own will.

They were assured that the researcher would respect their confidentiality, privacy, autonomy, and anonymity requirements. In order to ensure anonymity of the participants, the code names and numbers were allotted to each participant. They were assured that they had the right to withdraw their consent at any stage during the study if they felt that their security, confidentiality or anonymity were being comprised (Appendix II).

3.9 Overall Plan of the Study

The research was designed in such a way that it could result in the collection of data that could be compared to assess the efficacy of the intervention program. It started with the pre test of the participants. The next step was conducting the intervention and training program which involved a post test after the completion of the teaching sessions and training at the end of each day of these two days

intervention program. Each step of the overall plan of this research is described below.

3.9.1 Pre Test

After construction of the questionnaire and sampling, the first step was the pre test of the participants to assess the background level they possessed relevant to the objectives of this study. The background knowledge of the community midwives relevant to the family planning methods, contraceptives and implications involved in using different contraceptive techniques was collected. This pre assessment helped the researcher to draw a baseline regarding the background knowledge of the participants. Considering this baseline, the intervention (i.e. teaching sessions, training and demonstrations) was designed to enhance and improve the knowledge and skills of the participants regarding the family planning methods and counseling techniques.

3.9.2 Teaching Sessions and Training

The first day of intervention involved two teaching sessions. Lectures and presentations were used to impart knowledge regarding innovative and modern techniques of birth control and family planning. The teaching sessions focused on the advantages, disadvantages and complications associated with different contraceptive techniques such as condoms, vasectomy, IUDs, hormonal control, birth control pills, diaphragms and injections. The teaching sessions also focused implications such as STDs and breast cancer to enhance knowledge of the participants regarding these issues.

3.9.3 Test during Intervention

After the completing of teaching sessions on the first day, the test based on the same questionnaire as pre test was administered.

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3.9.4 Demonstrations, Training Sessions and Post Test

The second day of intervention also involved teaching and demonstrations to train the participants on how to conduct counseling sessions and impart the knowledge they acquired during these sessions to the couples in the community. The training was followed by practice sessions where each participant was to conduct a counseling session with a midwife regarding their needs on family planning.

The performance, competency and skill of the participants were assessed with the help of a checklist (Appendix IV) by the researcher. After completion of the intervention program, the post test was administered to assess the impact of intervention on their knowledge and skills.

3.10 Data Collection

Data collection instruments involved a questionnaire and a checklist. Based on the questionnaire, the pre test, test during intervention and post test were conducted to assess the knowledge of the community midwives before, during and after the intervention. The data collected through this instrument helped in comparing the level of knowledge of the participants regarding family planning, different methods of birth control and their advantages and disadvantages.

The questionnaire (Appendix III) was divided into two sections with the first section containing demographic questions like education, experience and current working status, name, age and average clients per month, and the second section contained questions regarding the basics of family planning such as the activities that can be categorized as family planning, the assessment and knowledge of the participants about family planning ethics, most reliable form of birth control and the advantages and disadvantages of different birth control methods.

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Moreover, it contained questions regarding risks and advantages associated with combination of birth control pills, vasectomy, the contraceptives acceptable during breastfeeding, the form of contraceptives that is most successful in protection from sexually transmitted diseases, knowledge of different steps in counseling a couple regarding family planning and the needs of a young woman regarding family planning and unintended pregnancy.

Based on the questionnaire described above, the data was collected and comparisons were made to assess the impact of the intervention and training program on the knowledge and skills of the community midwives regarding the family planning, different contraceptive methods, their advantages and disadvantages, and the complications linked with each birth control method.

The skills of the midwives were assessed before and after the training with the help of the checklist designed for this study (Appendix IV). The checklist included different steps involved in effective counseling sessions and questions that should be asked to understand the needs of a couple and make them understand the importance of family planning. The participants were asked to conduct a counseling session and were evaluated for each step to assess their skills before and after training. The data collected through the questionnaire and checklist were subjected to statistical analysis as described below.

3.11 Analysis of Data

For the analysis of data, the statistical package for social sciences (SPSS) *version 21* was utilized. The data from the pre, during and post intervention tests was entered into the data editor view of the software and was subjected to different analytical tools.

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First of all the descriptive and frequency analysis was done to summarize the characteristics of the data that were being analyzed. The descriptive including mean, standard deviation and standard error mean were calculated in order to understand the distribution of the data. The descriptive analysis was conducted for variables such as qualification, experience and average clients per month of the community midwives regarding family planning.

The main aim of this research is to enhance and to improve the knowledge of the participants through intervention. The effect of intervention on the knowledge and skills of the participants was assessed by conducting comparative analysis where mean scores of the pre, during and post intervention tests were compared through repeated measures, ANOVA, t test and McNemar test. Correlation analysis between different variables was also conducted to see the impact of other factors such as qualification and experience on the test scores. The results of the analysis of data are discussed in the next chapter.

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Chapter – 4

Data Analysis and Results

4.1 Introduction

Data analysis and results chapter is designed to present the results obtained from the statistical analysis of the data collected during this research in tabular and graphical form. This chapter also provides the interpretation of the results obtained. The chapter consists of two main sections. First section provides the analysis of demographic data and presents and interprets the results obtained from the statistical analysis of this data. The second section presents the results and interpretation of the comparative analysis as describe below.

4.2 Frequencies and Descriptive Statistics

The participants were asked about their educational qualification and experience of working as the community midwives in the locality. The frequency and descriptive analysis of the data collected from the participants was conducted and results are illustrated below. The results (Fig. 1) showed that 48% of the participants had education up to matriculation level only.

On the other hand, 28% of the participants reported to have education up to college level i.e. FA/FSc while 24% of the community midwives participating in this study had degree level education i.e. BA/BSc. From the results, it is clear that the data gathered for this study was approximately uniformly distributed in terms of the educational qualification of the participants. However, it is evident that most of the participants had education up to matriculation level (Fig. 1).

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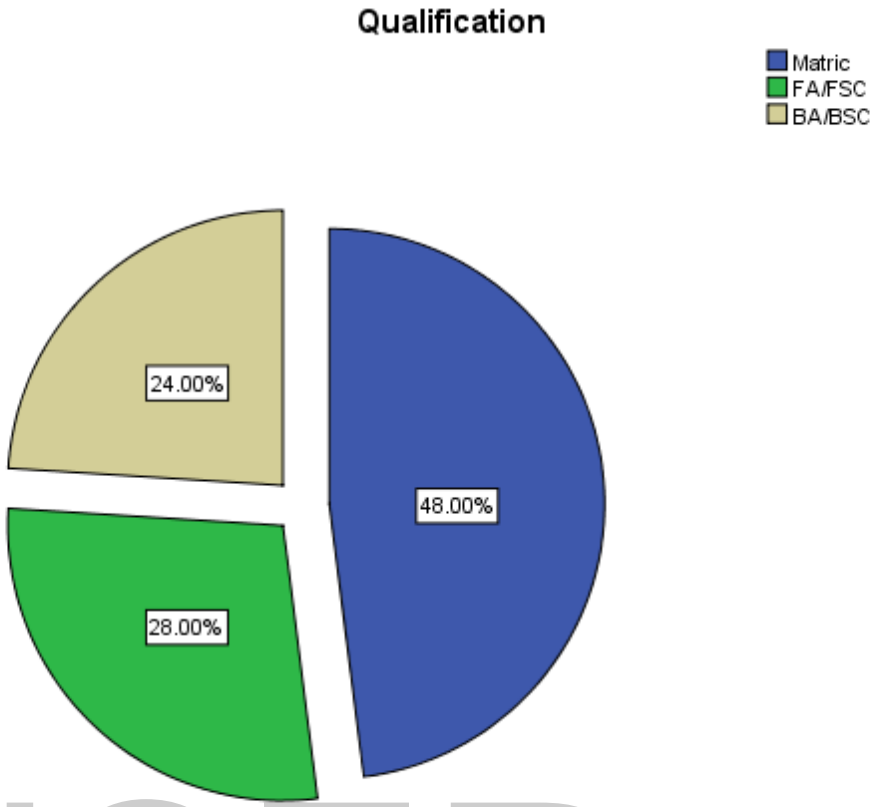

Figure 1: Educational Qualification of the Participants

One of the inclusion criteria was regarding the experience of the community midwives; and it was essential that a midwife must have the working experience of one year in order to be recruited as the participants of this study. The participants were asked to classify their experience in one of the three groups and the analysis of data yields the following results.

The results illustrated below (Fig. 2) revealed that 48% of the participants of this study had 1-2 years experience working as community midwives. 36% of the midwives reported that they had been working as midwives for 3-4 years. 16% of the participants had 5-6 years of experience in this field. It is evident that the experience of the participants was distributed from 1 to 6 years.

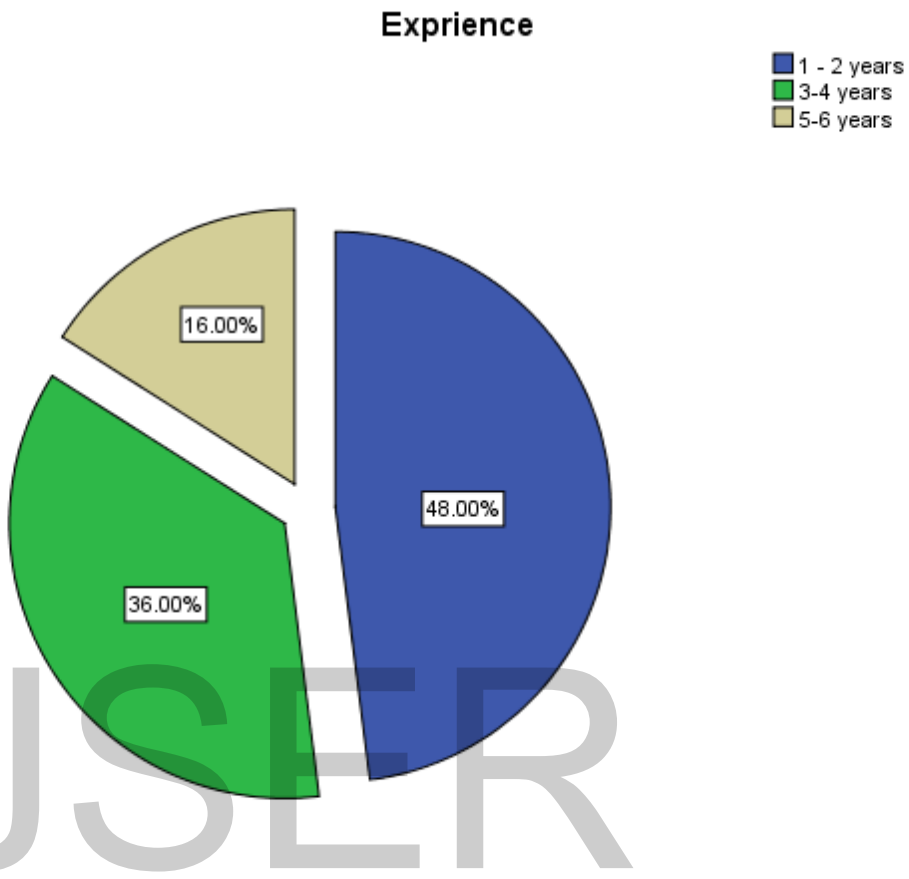

Figure 2: Experience of working as Community Midwives

The descriptive statistics for qualification and experience are presented below (Table 1). The mean for qualification is 1.76 with standard deviation ±0.83 and very small standard error of mean with value 0.16 indicating that the data was largely centered on the mean. The mean value for experience is 1.68 indicating that most of the participants had experience of 2-3 years. The standard deviation is ±0.74 and standard error for mean is 0. 15.

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Table 1: Descriptive Statistics: Qualification and Experience

Descriptive Statistics

		Qualification	Experience
N	Valid	25	25
	Missing	0	0
Mean		1.76	1.68
Std. Error of Mean		.166	.150
Std. Deviation		.831	.748

The pre test was used to assess the background knowledge of the participants. However, the participants were asked a question to know their opinion of their current knowledge about the professional ethics for family planning. The analysis of data yielded the following results (Table 2). According to the findings of this study, 80% of the participants of the research were of the view that they had only a little idea about the professional ethics required for family planning.

It was interesting to note that only 12% of the participants reported that they knew exactly about the professional ethics employed in family planning counseling. It reveals the professional status of the community midwives providing counseling services in the locality and emphasizes the need to train and educate the professionals regarding the modern knowledge and professional ethics so that they can serve the community in a better and efficient manner.

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Table 2: Do you have the knowledge about the professional ethics used in family planning?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	3	12.0	12.0	12.0
	No	2	8.0	8.0	20.0
	Have a little idea	20	80.0	80.0	100.0
	Total	25	100.0	100.0	

The same question when asked after conducting the intervention and training program yield the following results (Table 3). After going through the intervention program, 88% of the participants reported to have the knowledge of professional ethics used in family planning. After intervention, only 4% of the participants refused to have the knowledge and 8% attained a little knowledge about the professional ethics.

Table 3: Do you have the knowledge about the professional ethics used in family planning? (After Invention)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	22	88.0	88.0	88.0
	No	1	4.0	4.0	92.0
	Have a little idea	2	8.0	8.0	100.0
	Total	25	100.0	100.0	

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It is quite evident from the above results that the intervention had considerable impact on the knowledge of the participants regarding professional ethics in family planning. In order to estimate the level of experience and involvement of the participants in the process of family planning, the participants were asked to provide an estimate of the average number of family clients they were engaged by in one month.

The analysis of the data regarding the average number of family planning clients per month revealed the following results (Table 4). The results showed that every participant was engaged with nearly 13 (12.76) couples to provide counseling for family planning. Standard deviation for this is ±9.89 showing that the data is scattered. The large value of standard deviation also indicates that some of the participants were engaged with as many as 22 couples and some were only engaged with 3 to 4 clients per month.

Table 4: Average number of family planning clients/month

Descriptive Statistics

	N	Mean		Std. Deviation
	Statistic	Statistic	Std. Error	Statistic
Average number of family planning clients/month	25	12.76	1.978	9.892
Valid N (listwise)	25			

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4.3 Comparing Means

In order to achieve the aim of this research, the foremost objective was to assess and evaluate the current knowledge and skills of the participants relevant to different methods of family planning, contraceptives, their pros and cons and complications associated with each contraceptive technique. The background knowledge of participants regarding the basic concepts of family planning was to be assessed as well.

In order to accomplish this objective, a questionnaire based pre test was administered to collect the primary data regarding the background knowledge of the community midwives participating in the current research. The results of the pre test were recorded as the test scores obtained by each participant out of 14 i.e. the total number of questions relevant to basic knowledge about family planning and contraceptive methods.

The study followed an interventional study design involving an intervention or training program to improve the current state of knowledge and skills of the participants. It was a key objective of the study to evaluate effects of the intervention program by comparing the test scores scored by the participants before and after going through the intervention.

Hence, the same questionnaire was used to administer a test during the intervention and after completion of the intervention called post test. Data collected from the during and post intervention test was recorded and was subjected to statistical analysis to calculate if there were any significant differences between the means of pre, during and post intervention means. The results of the comparison of means statistics are presented and interpreted below.

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At first, the descriptive statistics for the scores of pre, during and post intervention programs are illustrated (Table 5). The descriptive statistics include mean, standard error for mean and standard deviation for the test scores by the participants in pre, during and post test interventions. The mean for scores of pre intervention test is 5.08 ±0.25 and Standard deviation of ±1.25 showing that most of the participants scored between 4 and 6 in the pre intervention test.

The mean values for during intervention and post intervention test scores were 10.12 and 11.68 respectively with standard deviations of ±1.36 and ±1.4 for scores during intervention and post intervention respectively. These values indicate that the test scores for during and post intervention programs generated uniformly distributed data that was mainly centered round the mean values.

The standard error for mean values are 0.25, 0.27 and 0.28 for the test scores before, during and after the intervention respectively showing that the data was normally distributed and it had no significant outliers.

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Table 5: Descriptive Stats: Pre, During and Post Intervention Test Scores

Descriptive Statistics

	N	Mean		Std. Deviation
	Statistic	Statistic	Std. Error	Statistic
Test scores before intervention	25	5.08	.251	1.256
Test scores during intervention	25	10.12	.273	1.364
Test scores after intervention	25	11.68	.281	1.406
Valid N (listwise)	25			

4.3.1 McNemar`s Test Results

The current research involved comparing the means of related samples as the pre and post intervention tests were administered to the same sample to evaluate the impact of intervention of their results in the questionnaire based tests. Thus, the related sample means were compared with the help of McNemar`s test. The results of this Non-parametric test are given below (Table 6 & 7).

From the results of this test, the researcher can present the proportion of the participants who passed the test before and after going through the intervention. The crosstabs table (Table 6) illustrates these results as described here. The bottom-left cell of the table illustrates that originally 16 participants out of 25 were fail in the test but they passed the test after this intervention. Since the purpose of this interventional study was to improve the knowledge of participants regarding family planning, these 16 cases can be regarded as the evidence of the success of the intervention.

The top right corner of the crosstabs show that no participant who was pass in the pre test failed in the post test showing that the intervention had no negative impact

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on the knowledge of the community midwives regarding family planning and contraceptive methods. The results of this test confirm the positive outcome of the intervention. However, to know if these results were statistically significant, have a look at the test statistics (Table 7).

The p value ($p < .05$) for the test statistics clearly indicates that there was a statistically significant difference between the proportion of participants who passed the test before and after going through the intervention. The exact McNemar's test results evidently determine that number of participants passing the test was statistically different in pre and post test with $p = 0.000$ (Table 7).

Table 6: McNemar Test: Crosstabs

Pre intervention test results & After intervention test results

Pre intervention test results	After intervention test results	
	Pass	Fail
Pass	5	0
Fail	16	4

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Table 7: McNemar Test Statistics

Test Statistics[a]

	Pre intervention test results & After intervention test results
N	25
Exact Sig. (2-tailed)	.000[b]

a. McNemar Test

b. Binomial distribution used.

4.3.2 ANOVA for Repeated Measures

The paired or related sample data can be analyzed through the ANOVA (Analysis of Variance) test with repeated measures. This test is utilized to compare the means of at least three different groups where the data are taken from the same sample after certain intervals of applying or exposing them to the intervention. In the case of this research, a sample of 25 community midwives was used to collect data at different intervals i.e. pre, during and post intervention.

Therefore, the ANOVA with repeated measures is a suitable statistical test for the data collected through this research as the test scores of pre, during and post intervention were taken from the same participants. The same sample was assessed for its knowledge regarding basic concepts of family planning and modern contraceptive methods for birth control three times i.e. the first test was conducted

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before the intervention and training program, the second test was conducted at the end of the teaching sessions and presentations on day one, and the third test was conducted when the participants had completed the intervention and training program on second day.

The data collected during this study fulfilled most of the assumptions of Analysis of variance with repeated measures except the assumption of sphericity but the data was assumed to fulfill this condition as well. The ANOVA test with repeated measures was run on the data and results of the analysis are illustrated in the following lines. As a result of ANOVA with repeated measures, a table with the descriptive statistics was obtained that has been presented and interpreted above (Table 5).

The multivariate test of ANOVA is illustrated below (Table 8). It presents the results of different tests including Pillai`s Trace, Wiliks` lambda, Hotelling`s Trace and Roy`s Largest Root. All these tests show the impact of the intervention on the test scores by the participants. However, Wilks` Lambda is the most fundamental test in this regard.

The results of the Wilks` Lambda illustrate that $p < 0.001$ and assert that the intervention and training conducted by the researcher significantly impacted the test scores of the participants of this study. The results of other tests also reveal quite similar results in this respect showing strong support for the proposition that the intervention and training program had statistically significant impact on the knowledge of the participants regarding family planning.

In simple words, it can be concluded from the above tests and their results that intervention designed for this study resulted in a significant improvement in the

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knowledge of the community midwives regarding different contraceptive methods, their benefits and harms and the complications that might result from each of the contraceptive method.

The right most column of the multivariate tests table also provides an interesting value to look at. It gives the partial eta squared values that provide effect size for difference in mean test scores by the participants at different times. The eta squared value is calculated to be 0.92 in the case of the impact of intervention on the knowledge of participants regarding the family planning basics.

An effect size of 0.92 is quite large and is indicative of the highly positive outcome of the intervention. In simple words, the effect size of 0.92 for the intervention emphasizes that this intervention would have a large and positive outcome irrespective of the sample size used in this study. It implies that the similar improvement in the knowledge of a large sample of community midwives can be achieved by following the intervention program for family planning and contraceptive methods or techniques.

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Table 8: ANOVA with Repeated Measures: Multivariate Tests

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Time	Pillai's Trace	.929	149.665[b]	2.000	23.000	.000	.929
	Wilks' Lambda	.071	149.665[b]	2.000	23.000	.000	.929
	Hotelling's Trace	13.014	149.665[b]	2.000	23.000	.000	.929
	Roy's Largest Root	13.014	149.665[b]	2.000	23.000	.000	.929

a. Design: Intercept

Within Subjects Design: Time

b. Exact statistic

The tests of within subject effects (Table 9) are illustrated below. This is the third table that was obtained by running the ANOVA with repeated measures on the data collected through this research. Since the data set used for analysis violated the assumptions of sphericity of data, the row containing the F value, P value and eta squared value with the caption ‘Greenhouse Geisser’ is of the main concern.

The Greenhouse-Geisser correction revealed that mean test scores secured by the community midwives working on family planning in the pre, during and after intervention tests significantly differed at $F (1.414, 33.94) = 210.89$ at $p < 0.001$ and a considerable eta squared value of 0.89 (Table 9).

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Table 9: ANOVA with Repeated Measures: Tests of Within-Subject Effects

Tests of Within-Subjects Effects

Measure: Test-Scores

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Time	Sphericity Assumed	594.960	2	297.480	210.896	.000	.898
	Greenhouse-Geisser	594.960	1.414	420.726	210.896	.000	.898
	Huynh-Feldt	594.960	1.477	402.891	210.896	.000	.898
	Lower-bound	594.960	1.000	594.960	210.896	.000	.898
Error(Time)	Sphericity Assumed	67.707	48	1.411			
	Greenhouse-Geisser	67.707	33.939	1.995			
	Huynh-Feldt	67.707	35.441	1.910			
	Lower-bound	67.707	24.000	2.821			

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The results interpreted above for the Table 8 and 9 clearly assert that the group means for test scores were significantly different but are unable to point out the place where this difference occurred. In order to show where these differences occurred, the statistical analysis generated a table titled Pair-wise Comparisons (Table 10). This table provides a comparison of different time pairs indicating the pair in which the statistically significant differences occurred among means of pre, during and post intervention test scores.

The significance column (i.e. sign.[b]) is of interest in this regard. The p values given in this column indicated whether the pair was significantly different or not as far as the mean test scores were concerned.

Simply put, it can be stated that mean test scores of the participants were significantly different from the mean test scores obtained in the post intervention tests at $p < 0.001$ although the confidence interval for the current research was 0.05. With all rows showing $p < 0.001$ (Table 10), it is evident that the participants of the study acquired significance in the mean test score values at different times of the intervention.

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Table 10: ANOVA with Repeated Measures: Pair-wise Comparisons

Pairwise Comparisons

Measure: TestScores

(I) Time	(J) Time	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	-5.040*	.389	.000	-6.042	-4.038
	3	-6.600*	.383	.000	-7.586	-5.614
2	1	5.040*	.389	.000	4.038	6.042
	3	-1.560*	.201	.000	-2.076	-1.044
3	1	6.600*	.383	.000	5.614	7.586
	2	1.560*	.201	.000	1.044	2.076

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Bonferroni.

The results of the comparing means analysis can be summed up as follows. The data were subjected to ANOVA with repeated measures to evaluate if the mean test scores at different times differed significantly. The test scores of the participants obtained in pre, during and post intervention test were subjected to one way ANOVA for repeated measures with an aim to find out if the intervention resulted in significant improvement in the knowledge of the participants regarding the family planning, different methods of contraception, advantages and disadvantages of different birth control methods and complications of these methods for the young women.

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The results showed that intervention significantly improved the knowledge of the participants with Wilks` Lambda = 0.071, F (1.414, 33.94) = 210.89 ($p < 0.001$) and a large effect size of 0.89. It can be concluded from these results that the intervention had statistically significant impact on the knowledge of participants regarding methods and techniques of family planning. The graphical presentation of these results is given below (Fig. 3). It shows estimated marginal means of test scores during pre intervention test, during the intervention test and post intervention test

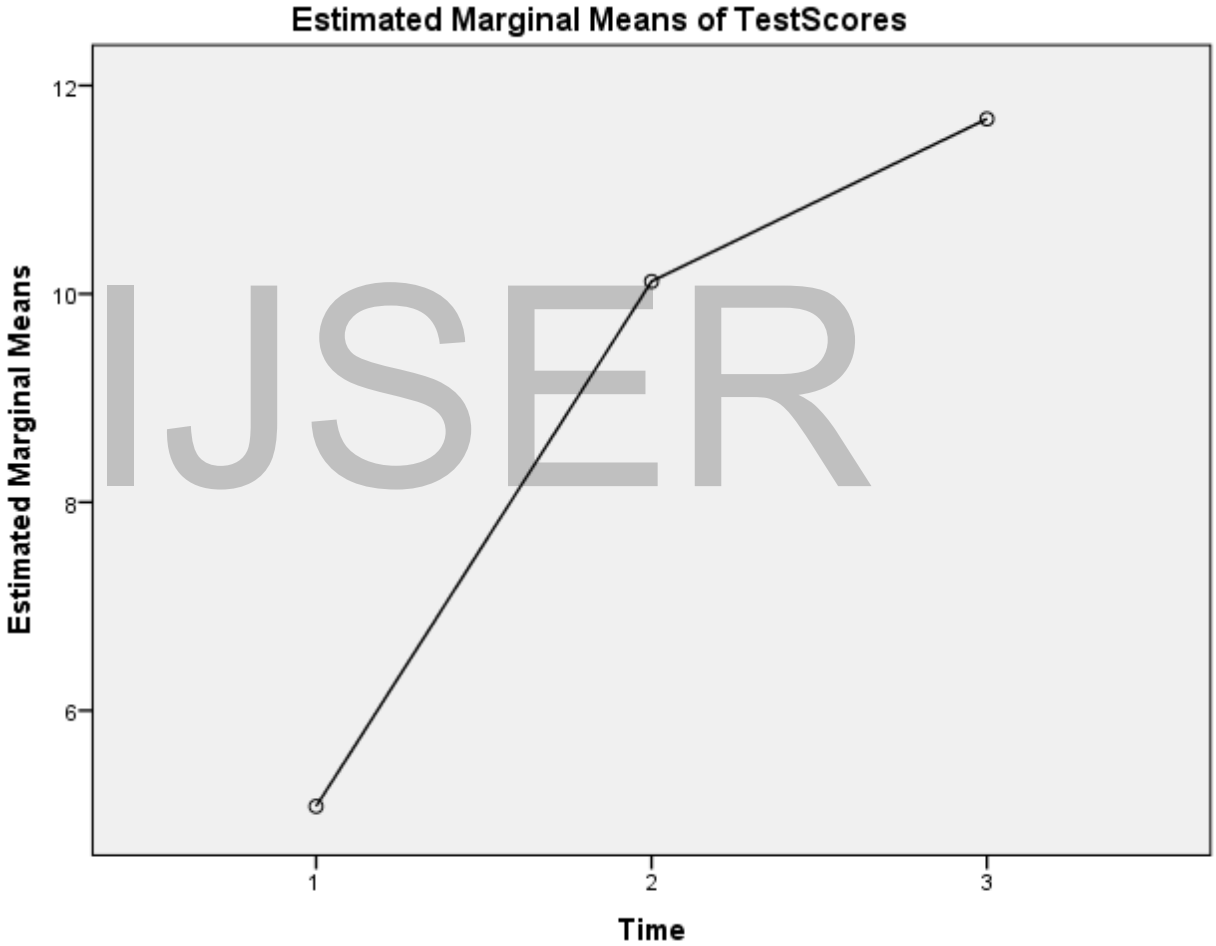

Figure 3: Estimated Marginal Means of Test Scores before, during and after intervention

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4.4 Correlation Analysis

Comparing means analysis has clearly showed that the mean test scores of the participants at different time intervals were statistically and significantly different. In a pursuit to identify if any demographic character such as qualification or experience of a participant had some effect on the mean test scores obtained by the participants in pre, during and post intervention test, the correlation analysis between test scores at different intervals and, experience and qualification of the participants was conducted. The results are illustrated below (Table 11).

The results of the correlation analysis revealed that educational qualification of the participants showed some correlation with the test scores during and after the intervention program. The qualification of the participants was positively correlated with their scores in the test conducted during the intervention at $\alpha = 0.541$, $N = 25$ & $p < 0.001$.

Similarly, the correlation was found between the scores of the participants in post intervention test and their educational qualification at $\alpha = 0.609$, $N = 25$ & $p < 0.001$ (Table 11). It shows that participants with higher educational qualification scored higher in the tests conducted during the intervention program and after completion of the intervention program.

The findings of the correlation analysis revealed that some other factors such as qualification of the participants had a positive relationship with the learning ability of the participants and their ability to understand and collect the knowledge given through teaching and training sessions. In simple words, the community midwives with higher educational qualification showed better understanding of the teaching and

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gained more knowledge as compared to the participants with low level of educational qualification.

Table 11: Correlations Analysis

		Qualification	Experience	Test scores before intervention	Test scores during intervention	Test scores after intervention
Qualification	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	25				
Exprience	Pearson Correlation	-.330	1			
	Sig. (2-tailed)	.107				
	N	25	25			
Test scores before intervention	Pearson Correlation	.139	-.060	1		
	Sig. (2-tailed)	.507	.775			
	N	25	25	25		
Test scores during intervention	Pearson Correlation	.541**	-.451*	-.103	1	

	Sig. (2-tailed)	.005	.024	.624		
	N	25	25	25	25	
Test scores after intervention	Pearson Correlation	.609**	-.379	-.032	.738**	1
	Sig. (2-tailed)	.001	.062	.879	.000	
	N	25	25	25	25	25

**. Correlation is significant at the 0.01 level (2-tailed).

4.5 Comparing means of Skill Tests

The results of the skill test were also subjected to nonparametric test i.e. McNemar's test in order to estimate the effect of intervention on the counseling skills of the participants. The results showed that 11 participants who failed the pre test were able to pass the checklist test after the intervention. There was no negative impact of the intervention and the test statistics indicate that the proportion of the participants who passed the checklist test before the intervention was significantly increased after the intervention with $p < 0.001$ (Table 12). Thus, it can be concluded that the training program had significant impact on the skills of the participants to conduct successful counseling sessions and impart knowledge to the couples.

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Table 12: Results of skill-test before intervention & Results of skill-test after intervention

Results of skill-test before intervention	Results of skill-test after intervention	
	Pass	Fail
Pass	9	0
Fail	11	5

Test Statistics [a]

	Results of skill-test before intervention & Results of skill-test after intervention
N	25
Exact Sig. (2-tailed)	.001[b]

a. McNemar Test

b. Binomial distribution used.

The analysis of data and main findings have been presented and interpreted in this chapter. The next chapter of the thesis focus on the conclusions drawn from these results and discussion of the results on how these results help in achieving the objectives and aim of the research initially set by the researcher.

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Chapter – 5

Results Discussion

The aim of the research was to assess the effectiveness of an intervention and training program specifically designed to improve the knowledge and skills of community midwives working in the locality of District Multan, Punjab, Pakistan. The data collected during this research was analyzed through different statistical tests and the results have been presented and interpreted in the data analysis and results in chapter (Chapter 4).

This chapter discusses the main findings of this study and their implications. First of all, the main findings of the study are summarized. Data analysis regarding qualification and experience of the participants revealed that participants belonged to different educational background and had been working for family planning from 1 to 6 years. The role of the community midwives in disseminating information about contraceptive techniques, especially to young couples, is crucial for successful family planning.

The results yielded from data analysis revealed that there was a dire need to educate the community midwives working in the locality. Only 12% of the participants reported to have complete knowledge about the professional ethics implemented in family planning. Moreover, the pre test results showed that 84% of the participants were unable to pass the test, indicating the lack of knowledge about the modern contraceptive methods and family planning techniques among the community midwives.

It can be concluded that the community midwives required education and training about the modern contraceptive techniques and family planning methods such

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as injections, intra-uterine contraceptive, vasectomy and birth control pills. The findings are in line with those reported by Fehring et al. (2001) who studied the status of knowledge possessed by the certified/registered community midwives and their contribution towards promoting different methods of family planning among couples. There is a critical need to adopt family planning methods in developing countries like Pakistan and it is only possible when couples are educated about the appropriate birth control methods and they are provided counseling when required.

Community midwives are the main agents for disseminating knowledge about different contraceptive methods and their advantages or disadvantages. Thus, the success of family planning campaign is mainly dependent on the community midwives. The lack of knowledge on part of the community midwives may be a major reason for low adoption of family planning methods among couples. Sahin & Sahin (2003) also reported it among one of the reasons for low adoption of family planning methods in Turkey.

The significance of this study can be best understood by knowing the importance of family planning. As stated by Cleland *et al.* (2006), *"Promotion of family planning in countries with high birth rates has the potential to reduce poverty and hunger and avert 32% of all maternal deaths and nearly 10% of childhood deaths. It would also contribute substantially to women's empowerment, achievement of universal primary schooling, and long-term environmental sustainability"*.

In light of the significance of family planning for developing countries with high birth rate and the results of the pre test, it was concluded that there was a critical need to educate the community midwives in order to improve their knowledge and skills relevant to basic principles of family planning, its advantages, different methods

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of birth control available in the country and pros and cons of each method. This study identified this need and conducted an intervention on limited scale in order to assess the efficiency of the intervention and formulate recommendations for the improvement of the current situations in terms of family planning.

The intervention focused on the basics of family planning, different contraceptive methods such as intra-uterine devices, injectables, birth control pills, vasectomy etc. The advantages and disadvantages of these methods were taught to the participants so that they could get basic understanding of these methods and impart this knowledge to their family planning clients during counseling sessions. Moreover, they were also taught different steps involved in effective counseling for family planning and were asked to practice these steps. These activities helped in assessing the effectiveness of the intervention for improving the knowledge of the community midwives.

The study found that there was a significant difference between the proportion of participants who passed the test before intervention and the number of participants who passed the test after the intervention with p value < 0.001. From these findings, it can be concluded that the intervention and training program designed to improve the knowledge of the community midwives regarding family planning had significant impact on their knowledge. Similarly, the skills were significantly improved as is evident from the McNemar test results of the skill tests before and after the intervention (Chapter 4).

These results are supported by those reported by Stanback & Twum-Baah (2001). They reported the importance of understanding family planning for health extension workers. The theme of their studies was that the community messages must

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be linked with knowledge based services. From this, it can be asserted that the community midwives who are disseminating the significance of family planning and different birth control methods must be educated for the advances in this field.

Furthermore, the link between the community message of family planning and the knowledge base i.e. the research institutes for family planning education and training, should be established. It would help in disseminating the most recently developed techniques and methods of contraception to the couples looking for planning their family.

Interventions are useful tool for enhancing the knowledge of the subjects. The results from statistical analysis suggest that the intervention designed for this study had significant impact on the knowledge and skills of the community midwives regarding family planning. Apart from the significant p values of less than .001, the effect size for the intervention was also calculated through ANOVA for repeated measures.

The effect size of 0.92 was calculated for the impact of intervention on the knowledge of the participants regarding family planning such as contraceptives and their advantages and disadvantages. This value of effect size is very high and suggests that the interventions can be used to enhance and improve knowledge and skills of the community midwives in order to get better and improved results from them. Moreover, it can be of great help in achieving the benchmarks or goals of family planning set by the government agencies.

Interventions have significant impacts on the knowledge and practice as was reported by Bolam (1998). Post natal health training was given to mothers and it was found that mothers who were educated about family planning and post natal care for

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children were more involved in contraceptive techniques as compared to the women who were not subject to any intervention.

Therefore, it can be asserted that individual delivery of knowledge to community midwives may enhance the use of contraceptives among young couples are who are seeking advice for adopting family planning and want to know about different techniques of contraception available along with their benefits and hazards.

The results discussion can be summarized by stating that there is a lack of knowledge and skills among the community midwives practicing in the locality regarding the family planning and modern contraceptive methods. Therefore, there is a critical need to educate and train the workers in the field.

The study also found that the interventions consisting of teaching sessions, presentations, demonstrations and practice sessions have significant effect on the knowledge and skill of the community midwives relevant to family planning and contraceptive methods, their benefits, hazards and complications associated with each contraceptive technique. The next chapter provides the conclusion of the thesis by summarizing the key findings and how the aim and objectives of this study were achieved during this research.

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Chapter – 6

Conclusion

This study was conducted to assess the current status of the knowledge of the community midwives regarding family planning and contraceptive methods, and to improve their knowledge and skills in this regard by subjecting them to an intervention for two days. Its aims are presenting the conclusion of this research by discussing the main aim and objectives of the research and linking them to the results in order to assess the extent to which the study successfully achieved its objectives.

The aim of the research was to improve the current status of the knowledge and skills of community midwives concerning family planning and skills through training or intervention program. In order to achieve this aim, the study had five objectives which were to be achieved to accomplish the aim of the research.

The first objective was to evaluate current status of the knowledge of community midwives regarding family planning preferences in the locality. This objective was successfully achieved by recruiting 25 community midwives from the locality and assessing their skills by a pre-training test. The test was based on a questionnaire containing questions relevant to basic concepts of family planning and contraceptive methods. The results showed that 84% of the participants failed in the test showing that there was lack of education and skill regarding family planning among the community midwives.

The second objective was to identify the level of knowledge possessed by community midwives regarding the issue of family planning. Most of the participants reported to have a little knowledge of professional ethics implemented in the family planning. The pre-test results also revealed that the level of information, knowledge

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and skills of the community midwives regarding the use of different contraceptive methods including inter-uterine devices, injectables, vasectomy, birth control pills and condoms was quite low. Thus, the study successfully achieved its first objective by conducting a pre-intervention test and analyzing its results.

The third objective was to design and administer an intervention to the participants/study subjects in order to improve gaps in their knowledge and skills that were identified. This was done through conducting an intervention designed on the basis of the preliminary analysis of the knowledge of the community midwives regarding family planning.

The intervention included teaching sessions and presentations on the basics of family planning and different contraceptive techniques being used throughout the world for birth control. The participants were told about the benefits and disadvantages of each contraceptive method along with the complications that may result from the use of each contraceptive method.

The intervention program was conducted and administered for two consecutive days. On the second day, the participants were demonstrated about different steps involved in successful counseling regarding family planning and they were asked to practice these steps by conducting a practice counseling session with a couple. With the completion of the intervention program, the second objective of the study was also achieved successfully.

Fourth objective of this research was to evaluate the results or effect of intervention on the study subjects. In order to achieve this objective, the participants were tested for their knowledge at two different occasions. First, a test was conducted at the end of the first day of the intervention program. Second, a post test was

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conducted after completion of the intervention program on the second day. The performance of the participants in these tests was analyzed and was compared with their test scores before intervention.

The results revealed that the intervention had significant impact on the level of knowledge and skills of the study subjects. The data of the results of all tests were subjected to different statistical tests for comparing their means and it was confirmed that the mean test-scores of the study subjects differed significantly before and after the intervention. Thus, the third objective of this research was successfully achieved.

6.1 Recommendations

The last objective of the study was to put forth the results of this research and make appropriate recommendation to the authorities for appropriate actions. Based on the results of this study, the following recommendations are made for taking necessary action.

i. There is a crucial need to educate the community midwives regarding the basics of family planning and prevailing contraceptive techniques because the study found a severe lack of knowledge in this regard on the part of the community midwives in the locality.

ii. It is recommended that the community midwives are given training for conducting counseling sessions with young couples to educate them about importance of family planning. Moreover, the training should enable them to convince their clients about using most prevailing and safe contraceptive methods.

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iii. The intervention program designed for the current study proved very effective in improving the knowledge and skills of the community midwives. The effect size for the intervention program is quite high indicating that an intervention program consisting of teaching sessions, demonstrations, presentations and practice sessions could prove successful for improving the knowledge of health extension workers e.g. lady health visitors and community midwives. Therefore, it is recommended that an intervention program is designed for the lady health visitors to improve their current knowledge.

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Appendix I- Demographic Form

Demographic Form

Name of Participant ……..

Age (in years) …… City of residence…….

District……..

General Education MATRIC ☐ FA/FSc ☐ BA/ BSc ☐

Other …….

Name of Midwifery School (optional)……

Year of Graduation ……..

Are you currently working? .....

Are you working with private practitioner……

Are you working as an independent practitioner?……☐.. ☐ ☐

Period of working with private practitioner in y year months days

Period of working as an independent practitioner year months days

Average number of family planning Clients per month……

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Appendix II – Consent Form

Knowledge of Community Midwives regarding Family planning
Participants Consent Form

Dear Participant:

I Salma Perveen MSN Nursing students of Texila American University, Georgetown, Guyana, South America. I am interested in conducting a research on "Knowledge of Community Midwives about family planning".

Objectives of Study:

The objectives of this research project are as follows;

To evaluate the present information of community midwives about family planning preferences in the local community

i. To identify the present level of knowledge and skills of community midwives about family planning,
ii. To intervene the study subjects for gaps in knowledge and skills,
iii. To evaluate the results of intervention in study subjects,
iv. To put forth the results of the study and recommend the authorities to take appropriate action against the issue.

Process:

If you agree to participate in this research I will ask you to sign a consent form and then there will be a pre-test having questionnaire for knowledge and skill assessment.

Methodology:

This study will utilize descriptive quantitative approach.

Autonomy:

Participation in this study is voluntary. Your decision to participate or refuse to participate shall not affect your job.

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Anonymity and Confidentiality:

In pretest questionnaire you will write your name after that instead of your name

numerical code such as 1, 2 will be used for each individual in the study.

Moreover, except me no one will identify these codes. All the raw data will be kept in a secure

place; only I and my supervisor will have access to the raw data. However, collective findings of

this research will be widely disseminated without revealing your name or other identifying

information.

Risks/Benefits for institutions:

This study is purely for academic purposes. This will give you an exposure to contribute to this study by sharing your experiences about midwifery practices. More over the comparative study (pre & post test) will be conducted. The finding will help to predict the level of knowledge and skill in the community midwives before and after the training. The successful completion of the study will help to control increasing population in Pakistan by training of Midwives. This will be a milestone in improving the awareness about family planning among couples. So the overall health of women and the infants will also substantially increase.

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In order to gather accurate data, your participation in this study will be of great significance in assisting and developing closer link among policy makers and implementers.

The results of study may be published for scientific purposes but will not give your name, or include any identifiable references to you.

Thanks
Salma Perveen
Nursing Instructor
College of Nursing,
Nishtar Medical College & Hospital, Multan, Punjab, Pakistan

Name of the Participant

Random Selection You have been randomly selected to be a part of this research project and that's why I would like administer a questionnaire to you.

Confidentiality The information you provide is totally confidential and will not be disclosed to anyone. It will only be used for research purpose. Your name will not be required for this project.

Voluntary Your participation is voluntary and you can withdraw from the survey after

Participation Having agreed to participate. You are free to refuse to answer any question that is asked in the questionnaire. If you have any question about this project you may ask me or contact (Salma Perveen, Nursing Instructor, College of Nursing N.M.C&H, Multan. Cell No: 03457256862)

Consent to Signing this consent form indicates that you understand what **Participate** will be expected of

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you and are willing to participate in this research project.

I read this from and agreed to take part in research project on "knowledge of community midwives about Family Planning in district, Multan.

Signature of participant

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Appendix III – Questionnaire

Questionnaire

Name……..

1. The term family planning is used for:

a. Increasing the birth space
b. Decreasing the birth space
c. Birth control
d. a & c

2. Do you have the knowledge about the professional ethics used in family planning?

a. Yes

b. Don't know

c. Have little idea

3. Which of the following is the most reliable form of birth control?
a. the rhythm method
b. birth control pills
c. coitus interrupts
d. they are all equally reliable

4. Which one is an advantage of combination of birth control pill:
a. Nearly 100 percent effectiveness if used properly
b. Safety with women over 35 who are cigarette smokers
c. Protection against sexually transmitted diseases
d. Nearly 50 percent effectiveness if used properly

5. Which type of contraceptive pill is considered acceptable for the first six weeks after birth when breastfeeding?

a. combination birth control pills
b. high estrogen pills
c. Low estrogen pills
d. Only progestin pills

6. Which one of the following statements is appropriate for Vasectomy?

a. It creates physical changes that interfere with erections
b. It interferes with sex hormone production
c. It have high rates of complications and side effects
d. It can be reversed in many cases

7. Current research suggests that the combination pill can cause risk of:
a. Ovarian cancer
b. Cervical cancer
c. Uterine cancer
d. **Breast cancer**

8. Which one of the following forms of contraception is most effective at protecting against sexually transmitted diseases?

a. The Patch
b. Combination pills
c. **Condom**s
d. Implant

9. Besides sterilization, which one of the most effective method of contraception is still used?

a. Combination pill
b. **Norplant**
c. Mini-pill
d. Diaphragm

10. Which of the following side effect is related with the use of the diaphragm?

a. **Limited protection in sexually transmitted infection**
b. Increased menstrual flow
c. Cause abdominal pain
d. Can lead to high blood pressure

11. GATHER stand for

a. great, ask, tell, help, explain, and return
b. grate, ask, tell, help, explain, and return
c. greet, ask, tell, help, explain, and return
d. none of above

12. Which one of the factors is not related to unintended pregnancy?

a. Lack of access to healthcare centers
b. Barriers to availability of product
c. Ethical constraints
d. Counseling

13. A young couple asks a community midwife about the best method of contraception that they should use. Which response is most helpful to the couple?

a. **The pill is the best because it is 100% effective with few side effects**.
b. The best method is the one that you both agree upon and will use consistently.
c. The condom is the best method because it prevents diseases as well as pregnancy.
d. No method is completely effective; you should practice abstinence until you are ready to have children.

14. A young woman asks the community midwife if oral contraceptives have any side effects. What is the best response for the community midwife to give?
a. Nausea, fluid retention, and weight gain.
b. Why do you ask? Look at the benefits.
c. **Are you concerned about something?**
d. Increased libido.

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Appendix IV – Skill Checklist

Checklist for Evaluating Knowledge and Skills of Community Midwives

S. No.	Steps	1	2	3
1	Greetings			
2	Introduction			
3	Identify the current family planning practices followed by clients			
4	Assessment of the existing knowledge regarding different methods of family planning among clients.			
5	Ask them to generally explain: What they understand by Family Planning and Birth control.			
6	Ask reasons for why they think Family Planning and Birth control is "**Important**"			
7	Identify the gaps in the midwives' knowledge and skills			
8	Ask for their experiences and their queries related to the unplanned pregnancies			
9	List down the problems identified			
10	Give health education for each problem			
11	Give awareness to midwives regarding possible hazards, complications and side effects of using contraceptions			
12	Take feedback from the midwives in between the counseling and training session			
13	Ask midwives to repeat what they have learnt			
14	Documentation			

1= not done/ have no idea
2= inappropriately complete/ have some idea
3= appropriately complete/ are well-versed in the topic

Appendix V – Ethical Approval

From

Office of District Health Officer.

Multan

To

Salma Parveen
Nursing Instructor
College of Nursing,
Nishtar Medical College & Hospital
Multan

SUBJECT: PERMISSION TO CARRYOUT RESEARCH

Sir

Reference to your letter dated 15/7/15 on subject grant of permission by ethical review committee on "knowledge of Community Midwife about Family planning''. It is to inform you that undersigned is pleased to accord permission to carryout study on community midwives of district, Multan.

The ethical review committee of this office has approved the research proposal submitted by you in its meeting held on dated 21/7/15 under my chairmanship.

District Health officer
Multan 24/8/15