

ORIGINAL ARTICLE

IMPACT OF LADY HEALTH WORKERS ON THE CONTRACEPTIVE PREVALENCE RATE IN DISTRICT MARDAN

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Background: Pakistan being the 6th populous country with a population of 207,774,520, and a growth rate of 2.6%, if left unchecked can reach 335 million by 2050. The total demand of family planning in Pakistan is 55% while the contraceptive prevalence rate is 35% with an unmet need for family planning is 20%. **Methods:** The contraceptive prevalence rate and frequently used contraceptive method in an area with Lady Health Worker services versus an area without Lady Health Worker services of union council Pat Baba were compared over a period of 6 months. 322 households were selected, 161 from LHW covered and 161 from LHW uncovered area of union council Pat Baba District Mardan. **Results:** The knowledge of contraceptive methods was 98.1% in the women of covered area and this knowledge was 90.1% in the uncovered area in union council Pat Baba. The source of information for the women in the covered area was mostly LHWs 87% and in uncovered area 25.5% of the women were informed by the LHWs, followed by elderly family members 7.5% in the covered, and 37.9% of the women in uncovered area. The contraceptive prevalence rate was 59% in covered areas and in uncovered areas it was 51.6%. The most frequently used contraceptive method in covered area was condom 16.8% and in the uncovered area it was withdrawal method 26.1%. **Conclusion:** There was a significant association between the LHWs presence on knowledge scores and contraceptive prevalence rate.

Keywords: Contraceptive; Lady Health Worker; Family planning.

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INTRODUCTION

Pakistan being the 6th populous country with a population of 207,774,520¹ and a growth rate of 2.6%, if left unchecked can reach 335 million by 2050. Pakistan has a total fertility rate of 4.33% and a maternal mortality ratio of 297 per 100 000 live births¹, making it one of the six countries contributing to more than 50% of all maternal deaths worldwide². In Pakistan the total fertility can be decreased to 3.1 births per woman if 16% unwanted births are controlled. The required demand of family planning in Pakistan is 55% and the contraceptive prevalence rate is 35% having an unmet need of 20%.³

Family planning provides the liberty of having the desired number of children and allows for adequate spacing among children and is an effective way to reduce poverty, provide economic growth, lowers fertility and improves maternal and prenatal mortality rates.⁴ The Maternal Mortality rate (MMR) in Pakistan was 490 in 1990 which decreased to 440 in 1995. In 2005, the MMR was 310 which decreased to 260 in 2010. In 2015, it further decreased to 178.⁵ Pakistan has one of the highest MMR in the South Asia region.⁶

Pakistan started its family planning program in 1950, wherein 1990 the Government started a population welfare program for the

provision of maternal and reproductive health services. Later the government in collaboration with WHO started a primary health care and family planning program in 1990 recruiting lady health workers (LHW) working at the grass root level in 1994.⁵

MATERIAL AND METHODS

A total of 340 women of reproductive age group were included in the study, out of which 322 (94.7%) willingly participated in the study. Reproductive age is the age at which a female is sexually active and can reproduce and is considered 15–49 years. Out of 322 households, 161 clients were selected from an area which had LHW services and another 161 clients were selected from an area that did not have LHW services in Union Council Pat Baba District Mardan. Mardan has 75 union councils having a total population of 2.2 million. Out of the 75 Union Councils, Union Council Pat Baba was selected randomly for this study. There were 15 villages in Pat Baba union council having a total population of 30712. Services were provided to 17000 of this population by 16 LHWs (covered area) but the remaining 13712 were not having any LHW services (uncovered area). Consent was sought from all the clients that fulfilled the

selection criteria. All married women of Pat Baba union council, Takhtbhai district Mardan who were in their reproductive age (15–49 years), and were not having pregnancy at the time of study were included. Women of Pat Baba union council, Takhtbhai, district Mardan whose husbands were abroad for more than one year, women in whom the indicated method of contraception is contraindicated, women who had undergone permanent method of contraception, whether for medical grounds or for the completion of their family were excluded from the study.

The tool for collecting the data was a modified questionnaire obtained from WHO website and modified according to the need of the study and was verbally translated into Pashto language but the answers were written in English. Pilot study was also conducted. All married women of Pat Baba union council Takhtbhai district Mardan who were in their reproductive age (15–49 years), and were not having pregnancy at the time of study were included. Women of Pat Baba union council, Takhtbhai district Mardan whose husbands were abroad for more than one year, who had undergone permanent method of contraception, whether for medical grounds or for the completion of their family were excluded.

RESULTS

A total of 340 women of reproductive age group were in the study, out of which (n=322) 95% willingly participated. The total number of women of reproductive age was (n=322) 100%, out of which 51% (n=164) of women were between 28–39 years of age group, 32% (n=102) were of 15–27 years of age and 17% (n=56) were of 40–49 years of age. The mean age of the participants was 31.1±7.1 years.

The level of education was 41% (n=131) of the women were uneducated, 29% (n=95) had received primary education, 14% (n=45) were matriculation pass, 9% (n=30) had done their intermediate and only 6% (n=21) were graduates. The analysis of family system revealed that 70% (n=225) of the respondents were belonging to the joint family system and 30% (n=97) of them were living in a nuclear family system. (n=215) 67% of the women had 1 to 4 number of children; 27% (n=86) were having 5-6 children; 4% (n=12) of the women were having more than 6; 3% (n=9) of the women were having no children. The job status of these women showed that 92% (n=297) of women were housewives; 8% (n=25) of the women were working ladies. The occupation of respondent's husband showed that their husbands were laborers 27% (n=86); 17% (n=54) were shopkeepers; 12%

(n=38) were health related; 11% (n=36) were drivers; 10% (n=33) were overseas, 9.7% (n=31) were teachers and 14% (n=44) were having other occupation like vehicles mechanic, carpenter, plumber and property dealer. The knowledge of contraceptive methods in women of reproductive age was divided into two sections which were modern contraceptive methods and traditional contraceptive methods.

The knowledge of contraceptive methods was 98% (n=158) in the LHW covered areas and was 90% (n=145) in the area in which these services were not available (Table-1). With further analysis 56% (n=31) of females in the LHW covered areas had knowledge about female sterilization and this knowledge was 11% (n=10) in the uncovered area, showing a statistically significant result with a *p* value of <.0001. The knowledge about male sterilization in the covered area was 19% (n=91) and was 6% (n=18) in the uncovered area, showing a statistically significant result with a *p* value of <.0001. The knowledge about pills was 96% (n=155) in the covered area and was 40% (n=65) in the uncovered showing a statistically significant result with a *p*-value of <.0001. The knowledge about IUCD was 70% (n=98) in the covered area and was 14% (n=23) in the uncovered area showing a statistically significant result with a *p*-value of <.0001. The knowledge about injections was 97% (n=156) in the covered area and this knowledge was 40% (n=64) in the uncovered area showing a statistically significant result with a *p*-value of <.0001.

The knowledge about implants was 34% (n=55) in the covered area and this knowledge was 7% (n=11) in the uncovered area, a statistically significant result was obtained with a *p*-value of <.0001.

The knowledge about male condoms was 87% (n=140) in the covered area and this knowledge was 38% (n=62) in the uncovered area showing a statistically significant result with a *p* value of <.0001. The knowledge about female condoms was 2.5% (n=4) in the covered area and this knowledge was 3% (n=5) in the uncovered area showing non-significant result.

The knowledge of Emergency Contraception method was 8% (n=13) in the covered area and this knowledge was 5% (n=5) in the uncovered area showing non-significant result. The knowledge of Lactational amenorrhea method (LAM) was 42% (n=67) in the covered area and this knowledge was 12% (n=20) in the uncovered area having a *p*-value of <.0001 which was a statistically significant result. The knowledge of

Rhythm method was 47% (n=75) in the covered area and this knowledge was 9% (n=14) in the uncovered area having a *p*-value of <.0001 which was a statistically significant result. The knowledge of Withdrawal method was 52% (n=83) in the covered area and this knowledge was 47% (n=75) in the uncovered area showing non-significant.

For the women in the covered area was mostly LHWs 87% (n=141) and in uncovered area 25% (n=41) of the women were informally informed by the LHWs. (Table 3) The LHWs are not visiting the houses in the uncovered area but both areas are in close proximity and they might be getting information from them in the form of a neighbor, relative or a friend. In the covered area the elderly family members are providing information to 7.5% (n=12) of the women and in uncovered area they providing information to 38% (n=61) of the women. In the covered area the friends are providing information to 6% (n=1) of the women and in uncovered area they are providing information to 9% (n=14) of the women. The information provided by the media in covered area was 6% (n=1) while in uncovered area media provided 3% information. The information provided by other sources in both areas was 2% (n=3) in covered area and 15% (n=24) in uncovered areas which included a Dai, LHV and husband of the women. A statistically significant result was obtained with a *p*-value of <.0001.

The contraceptive prevalence rate was 59% (n=95) in covered areas and in uncovered areas the contraceptive prevalence rate was 52% (n=83) a statistically significant result was obtained with a *p*-value of .179. The most frequently used contraceptive method in covered area was condom 17% (n=27) which was followed by 11% (n=17) women using injections, the pills users were 10% (n=16), 9% (n=15) women were using intrauterine contraceptive device (IUCD), 7.5% (n=12) women were using withdrawal method, 2.5% (n=4) were using LAM, 2% (n=2) women were using female sterilization and the male sterilization users were 6% (n=1). The most frequently used contraceptive method in uncovered area was withdrawal method 26% (n=42) which was followed by male condoms 8% (n=13) and the pills users were also 8% (n=13), injection users were 4% (n=8). Women using intrauterine contraceptive device (IUCD), lactational amenorrhea method (LAM), female sterilization were 1% and the male sterilization users were 6%.

78% (n=126) women in the covered areas discuss the family planning methods with their partners before using them and in uncovered areas

70% (n=113) women discuss the family planning methods with their partners before using them a statistically non-significant result was obtained with a *p* value of .098. Problem with the use of family planning method 42% (n=67) women in the covered areas had problem with the use of family planning method and in the uncovered areas 30% (n=49) of women had problem with the use of family planning methods.

Type of problems in the covered area was that majority of the women 22% (n=36) had irregular vaginal bleeding, 9% (n=15) had headache and nausea, 2.5% (n=4) had weight gain. 4% (n=6) had menstrual cramps, 2% (n=4) had severe acne and 2.5% (n=5) had other problems like melisma, amenorrhea and insufficient breast milk. In the uncovered area of the women (10%) 16 women had irregular vaginal bleeding, 10% had headache and nausea, 8% had weight gain. 2.5% had menstrual cramps. 84% of women in the covered areas wanted to continue the use of family planning method in future and in the uncovered areas 78% of women wanted to continue the use of family planning in the future.

In covered area 28% of the women were not using family planning methods in future because their family was not complete, 4% were not using it because their husbands were not willing, 2.5% were not using because of the fear of the side effects. 1% were not using because of ignorance and 7% were not using family planning method because of other reasons like availability of contraceptives, mother in law not willing and financial constraints.

In uncovered area 20% of the women were not using family planning methods in future because their family was not complete, 11% were not using because of the fear of the side effects. 6% women were not using because their husbands were not willing, 6% were not using because of ignorance and 11% were not using family planning methods because of other reasons like availability of contraceptives, mother in law not willing and financial constraints. A statistically significant result was obtained with a *p*-value of .004.

Effect of Religion on contraceptive use in the covered areas, only 1% of the respondents stated that religion affects the use of contraceptives and 99% respondents stated that religion has no effects on the contraceptive use. In the uncovered areas 4% of the respondents stated that religion affects the use of contraceptives and 96% respondents stated that religion has no effects on the contraceptive use. A *p*-value of .152 was obtained which was not a statistically significant result.

Table-1: Knowledge of modern contraceptive methods

Variables	Covered n=161	Uncovered n=161	Total n=322	p-value
Contraceptive knowledge				
Yes	158 (98%)	145 (90%)	303(94%)	0.005
No	3 (2%)	16 (10%)	19 (6%)	
Female sterilization				
Yes	31 (56%)	10 (11%)	41 (34%)	<0.0001
No	130 (44%)	151 (89%)	281(66%)	
Male sterilization				
Yes	91 (19%)	18 (6%)	109(13%)	<0.0001
No	70 (81%)	143 (94%)	213(87%)	
Knowledge of pills				
Yes	155 (96%)	65 (40%)	220(68%)	<0.0001
No	6 (4%)	96 (60%)	102(32%)	
Knowledge of iucd's				
Yes	98 (61%)	23 (14%)	121(38%)	<0.0001
No	63 (39%)	138 (86%)	201(62%)	
Knowledge of injectables				
Yes	156 (97%)	64 (40%)	220(68%)	<0.0001
No	5 (3%)	97 (60 %)	102(32%)	
Knowledge of implants				
Yes	55 (34%)	11 (7%)	66 (20%)	<0.0001
No	106 (66%)	150 (93%)	256(80%)	
Knowledge of male condoms				
Yes	140 (87%)	62 (38%)	202(63%)	<0.0001
No	21 (13%)	99 (62%)	120(37%)	
Knowledge of female condoms				
Yes	4 (3%)	5 (3%)	9 (3%)	0.735
No	157 (97%)	156 (97%)	313(97%)	
Knowledge of emergency contraception				
Yes	13 (8.1%)	8 (5%)	21 (7%)	0.259
No	148 (91.9%)	153 (95%)	301(93%)	

Table-2: Knowledge of traditional contraceptive methods

Variables	Covered n=161	Uncovered N=161	Total n=322	p-value
Knowledge of lactational amenorrhoea				
Yes	67 (42%)	20 (12%)	87 (27%)	<0.0001
No	94 (58%)	141 (88%)	235 (73%)	
Knowledge of rhythm method				
Yes	75 (47%)	14 (9%)	89 (28%)	<0.0001
No	86 (53%)	147 (91%)	233(72%)	
Knowledge of withdrawal				
Yes	83 (51.6%)	75 (46.6%)	185 (49.1%)	0.37
No	78 (48.4%)	86 (53.4%)	164 (50.9%)	

Table-3: Source of information.

Variables	Covered n=161	Uncovered n=161	TOTAL n=322	p-value
Information source				
LHW	141 (88%)	41 (25.5%)	182(56%)	<0.0001
elder family member	12 (7.5%)	61 (38%)	73 (23%)	
friends	1 (0.6%)	14 (9%)	15 (5%)	
media	1 (0.6%)	5 (3%)	6 (2%)	
others	3 (2%)	24 (15%)	27 (8%)	
no source	3 (2%)	16 (10%)	19 (6%)	

Table-4: Contraceptive prevalence rate.

Variables	Covered n=161	Uncovered n=161	Total n=322	p-value
Contraception use in last 30 days				
Yes	95 (59%)	83 (52%)	178 (55%)	0.179
No	66 (41%)	78 (48%)	144 (44%)	
If yes, which method				
Female sterilization	3 (2%)	2 (1%)	5 (2%)	.005
Male sterilization	1 (0.6%)	1 (0.6%)	2 (0.6%)	
Withdrawl	12 (7.5%)	42 (26%)	54 (17%)	
Pills	16 (10%)	13(8%)	37 (11%)	
IUCD	15 (9%)	2 (1%)	17 (5%)	
Injectables	17 (11%)	8 (4%)	30 (9%)	
Male condoms	27 (17%)	13 (8%)	50 (15%)	
Lactational	4 (2.5%)	2 (1%)	6 (2%)	
Amenorrhea				

DISCUSSION

The mean age of the participants was 31.1 years which is same and comparable with the study conducted in Lahore where the mean age of the participants is 33 years. 41% of the women were uneducated, which was consistent with a study done in Lady Aitcheson Hospital, Lahore in which 43% of the women were illiterate.⁷ In another study done in married women of Peshawar the Percentage of illiterate participants was 50%.⁸

29.5% of the women had received primary education, and only 6.5% were graduates. The study done in Lady Aitcheson Hospital, Lahore revealed that matriculation pass were 22% and none were graduates.⁷ 70% of the respondents were belonging to the joint family system and 30% of them were living in a nuclear family system. The job status of these women showed that 92% of women were housewives and only 8% of the women were working ladies. These results were consistent with the study done in Gynecology & Obstetric unit of tertiary care hospital in KPK which revealed that the majority of respondents were housewives and were living in combined family system which shows the social setup of a Pathan house-hold where mostly couples live in joint family system.⁹

The awareness of contraceptive methods was 90% in the uncovered area which is consistent with the study conducted in Peshawar where most married women (90%) had understanding of the common types of contraceptives methods.⁸ The information regarding contraceptive methods was 98% in the LHW covered area which was similar to a study done in Rural Haryana India which showed that the overall knowledge about any method of contraception was 97%.¹⁰

In another study conducted in Gynaecology & Obstetrics unit of tertiary care hospital in KPK it was found that around 97% of Pakistani women know at least one method of contraception but the contraceptive prevalence was only 29%.⁹

Similarly, another study conducted in rural Pakistan revealed that 81% women had some understanding about family planning methods.¹¹ The source of information for the women in the covered areas was mostly LHWs (87%). In the uncovered areas 25% of the women were informally informed by the LHWs. Further another study conducted in Gynaecology & Obstetrics unit of tertiary care hospital in KPK the information provided to the women by the medical profession is only 3.5%.⁹ The LHWs are not visiting the household in the area which was not served by them but the women were informally informed in the form of a neighbor, relative or a friend. In the uncovered areas, the

elderly family members were providing information to 38% of the women which is consistent with a study in Peshawar where generally elderly family members are providing information.⁹ The information delivered by the media in the covered area is 6% while in uncovered areas media provided 3% information which is not consistent with another study in rural Pakistan where the media provided information of contraceptives to 64% of the women.¹¹

The information provided through other sources were 15% in the covered area, which included a Dai, LHW and husband of the women and it is consistent with a study in Peshawar where the husbands provided 14% information to their wives.⁹ The contraceptive prevalence rate in my study was 59% in the covered area, which was served by LHWs and in the uncovered area it was 52% having a total contraceptive prevalence rate of 55%, that is consistent with a study conducted by the population council showing a total contraceptive prevalence rate of 55%.¹²

A similar study conducted in the Gynaecology & Obstetric unit of tertiary care hospital in KPK revealed that the contraceptive use was 58%, which was consistent with my study⁹ but on the contrary another study conducted in Khairpur showed total contraceptive prevalence rate of 29%.¹³ The most frequently used contraceptive method in the covered area was condom 17% similar results were observed in a study conducted in KPK where condoms were the most common method of family planning.⁹ A KAP study done in Karachi also illustrated a highest use of condoms by the women of reproductive age.¹⁴ A study conducted in Tehsil Gujar Khan revealed that the women served by the LHWs were most frequently using condoms, followed by Tubal ligation, intrauterine contraceptive device (IUCD), injection/oral contraceptive pills and male sterilisation.¹⁵ However a study conducted among females attending family planning center in Hayatabad Medical Complex, Peshawar showed that injectable contraceptive use was the highest (47%) followed by (17%) IUCD, (16%) pills, (10.5%) Tubal ligation and condoms (9%) were the least frequently used method of contraception.¹⁶

The most frequently used contraceptive method in the covered area was withdrawal method (26%) which was followed by male condoms (14%), the contraceptive pill users were 13% and injection users were 8%. Women using IUCD and female sterilization methods were 1% and the male sterilization method users were 6%, with similarity to Demographic and Health Survey 2012–13 in Islamabad revealing the less effective traditional methods use by 26% of the current population.¹⁷ A study conducted in Rural Community of Bangladesh

showed inconsistent results to present study, where Traditional methods like withdrawal and rhythm method was not practiced at all by the married women of reproductive age.¹⁸

An interventional study on the contraceptive uptake and the effects of educational leaflets revealed that at the follow-up postpartum visit (8-12 weeks) in the non-interventional group, the main contraceptive user was the male partner and the most common method used was coitus interruptus (36%), which is consistent with the present study, while in the interventional group the predominant contraceptive user was the female and the most popular method chosen was oral contraceptive pills (37%).¹⁹ 78% women in the covered areas discuss the family planning methods with their partners before using them and in the area not served by LHWs it is 70%. A study conducted in Peshawar reveals that 83% discuss the family planning methods with their husbands and only 12% never discussed them, which is consistent with this study results.⁸ 42% women in the covered areas had difficulty while using family planning methods and in the uncovered areas 30% faced this problem. A study conducted in Peshawar revealed that 54% were having problems with its use.⁸ Another study conducted in Bangladesh showed inconsistent results where 52% of the contraceptive users experienced side effects with the use of contraceptives while 48% were satisfied and showed no side effects.¹⁸ In the present study majority of the women had irregular vaginal bleeding followed by headache, nausea and weight gain which is consistent with a study conducted in a Rural Community of Bangladesh where the commonest side effects were menstrual irregularities followed by change in body weight.¹⁸

A study conducted in Tehsil Gujar Khan showed that although the oral contraceptive pills were available in abundance with the LHWs, the clients did not like it because of its side effects.¹⁵ Majority of the women were not using family planning methods in future because their family was not complete, followed by husband's unwillingness, and the third important reason was the fear of the side effects. In a similar study conducted in Bangladesh, the main reason for not using the contraceptive methods was the fear of side effects followed by family was not complete (31%), followed by pressure from the husband (12%) and lastly religious constraints (11%).¹⁸

In Lady Aitchison Hospital, Lahore, the reason for not using contraceptive methods were fear of side effects (21%), 17% considered it antireligious, 12% wanted more children in future, 7% had no knowledge about contraception, 8% opposed to family planning due to their husband's influence in

choosing contraceptive method.⁷ A study conducted in Peshawar revealed that the most common barriers for not using contraceptive methods were the non-availability of contraceptive services (54.5%), gender inequality issues (43.3%), illiterate husbands (42.8%) and high cost of contraceptive devices (38%).⁸

In the present study 1% of the respondents in the covered areas stated that religious beliefs affect the use of contraceptives while 99% respondents stated the opposite. In the uncovered areas 4% of the respondents declared that religion affects the use of contraceptives and 96% respondents stated that religion has no effects on the contraceptive use. About 24% married women were against using contraception because of religious beliefs.⁸ In Bangladesh 11% of the women of reproductive age consider the contraceptive use as prohibited by the religion.¹⁸

CONCLUSION

There was a significant association between the LHWs presence and the knowledge scores of the women. The findings showed that most of the females were well acquainted to contraception methods but it was greater in women who had access to LHWs services as compared to the areas which did not have this service provision. There was no significant association between the contraceptive prevalence rates in areas served by LHWs as compared to the areas which did not have this service provision. There was a significant association between the LHWs presence and the preferred method used by the women, in those areas condom was the most preferred method and in the uncovered areas it was withdrawal method.

Community mobilization and behavior change efforts can help us in fighting the misconceptions related to family planning and to increase awareness, acceptability, and use of modern contraceptive methods. The principal reasons for not using the modern methods of family planning were the fear of side effects, so counselling should be done regarding this problem.

AUTHORS CONTRIBUTION

SN: conception, design and acquisition of data. MK: analysis and interpretation of data. UN: drafting the article

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