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THE ASSOCIATION BETWEEN UNMET NEED FOR FAMILY PLANNING AND DYNAMICS OF FAMILY SIZE IN PAKISTAN

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Abstract

The size of a family is a significant factor in the daily lives of women, however Pakistan's fertility rates are comparatively high when compared to other developing and South Asian nations. There are several research that indicate women's involvement in decision-making may assist lower fertility rates. The purpose of this study is to look at how family size of Pakistan is affected by women's decision-making and unmet need for family size. We apply binary logistics regression to investigate this relationship. For this purpose, we utilized the data set of Pakistan Demographic and Health Survey 2017–18. According to results, family size falls as parents education rises. The probability of family size decreases as wealth status of household and ownership of land and house increase. The results demonstrate that there is a negative relationship between family size and the work status of women. The findings indicate that urban women have smaller families than their rural counterparts. The odd ratios show that women who take part in decision-making have smaller families than women's involvement in decision making and unmet need for family planning on family size is positive. The findings indicate that women's involvement in decision making and unmet need for family planning of family size is positive. The findings indicate that women's involvement in decision making have smaller families than women's involvement in decision making and unmet need for family planning of family size is positive. The findings indicate that women's involvement in decision making and unmet need for family planning of family size is positive. The findings indicate that women's involvement in decision making and unmet need for family planning of family size; Pakistan Demographic and Health Survey; Pakistan

INTRODUCTION

A household is a collection of individuals who regularly arrange for food, housing, and other necessities of life. Family units are at the point of convergence of numerous segment, social and money related procedures, since labor, lodging tasks, instruction and human services administrations, workforce support, relocation and hold reserves are normally directed at the family level. Sustainable development is closely linked to household characteristics, such as size and structure; poverty and wealth in general, as well as people's consumption patterns, influence that humans affect the environment (UN, 2017). According to Carroll (2007), Americans have average 2.5 children per family that is an ideal family size for them. Moreover, Pakistani couples like to have four children as an average family size. The ladies favor a normal of 4.1 youngsters, while men normal 4.3 kids in their families. Moreover, residents normal 3. Their family size is 3.9 like to have kids while those living in rustic zones 4.5 in their family. Kids like to have youngsters. Furthermore, literate persons prefer to limit their family size to 4.0 while illiterate couples prefer to increase their family size 4.9 children on average (NIPS, 2013). The all-inclusive community per family unit was 2.0. When there are in excess of 5 individuals in the house, the size of the house is viewed as huge. Family unit size was broadly found in families in quite a bit of Africa and the Middle East. The biggest family unit sizes were found in Senegal and Oman with a normal of 9.0 and 8.0 individuals separately. To achieve the first three goals of SDG, which are regarding the eradication of poverty, elimination of hunger and provision of food security to ensure the healthy life for all age groups, the composition of household have also important factor along with household size. Due to this reason, understanding of household composition on the basis of sex, age, marriage pattern, family structure are also relevant for the understanding of phenomena. For instance, data from developed countries shows that children face the poverty due to the family structure (Asif and Pervaiz, 2019). The children from single parent families have to face more poverty on average than two-parent





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households. Moreover, some studies have linked older persons' psycho-social health and life satisfaction to the composition of their households (UN, 2017; Hydariet al., 2019; Huseyin, 2023). According to the Pakistan Bureau of Statistics (2018) the normal household size of Pakistan is 6.32 in 2017-18 which was 6.75 in 2004 (HIES, 2004-05). There is more decrease in household size during the period of 2004 to 2017 Survey reports of PDHS 2017-18shows that fecundity ratio per women of 15 to 49 years of age on average in 1991 were 5.4 and decreased in 2017-18 to 3.6 children per women. Contraceptive use increases from 9% in 1991 to 25% in 2017 and the satisfaction level regarding use of contraceptive increase 21% to 49% from 1991 to 2017 respectively. There is mere decrease in household size in spite of remarkable decrease in fertility rate and remarkable increase in contraceptive use in Pakistan (Asif et al., 2021; 2024).

Contraceptive use remains an important component in the reduction of fertility, maternal, infant and child mortality (Canning & Schultz, 2012). Globally, Total Fertility Rate (TFR) has reduced drastically from 5 children per woman in the 1950s to 2.6. This decline is in part due to economic growth, social and cultural forces such as increased access to education by women (UNFPA, 2021; Senbeta, 2023), and improved reproductive healthcare which includes the use of modern contraceptive methods to prevent unwanted birth also attributed to this decline especially in the developing world (Bongaarts, 1997; Asif and Pervaiz, 2019; Asif et al., 2023; Asif et al., 2024). The use of contraceptives gives couples the ability to space child births, thus improving infant and child survival, allowing couples to fulfil their fertility desires (Saha & van Soest, 2013; Broz, 2022). Furthermore, contraceptive use prevents unintended pregnancies which may lead to unsafe abortions that usually have negative health consequences for women such as maternal deaths (Stover & Ross, 2010; Naeem & Hameed, 2022). The social and economic gains as a result of contraceptive use include; the empowerment of women by allowing them "to engage fully in socioeconomic development and providing them with reproductive choices" (Mbizvo & Phillips, 2014,). Many factors affect population growth. Among many economic and socio-cultural factors, availability and effectiveness of family planning programmes can be important in this regard. Family planning (FP) programmes can also help to decline fertility rate. As a result of fertility decline, increased working age adults in the population as compare to children and the elderly. This reduced dependency ratio tends to increase economic growth through increase in saving and investment. Reducing population growth enhances economic growth by bringing improvement in the health, productivity, education, and population skills. The resources are to be dispersed among peoples, thus improving human capital. Family planning programmes are thought to be useful for population control. Both population and contraceptives use have increased in the world. Women in underdeveloped nations continue to face various obstacles in gaining access to modern contraceptive techniques. Access to contraceptives, knowledge of contraceptives and inconvenience to use contraceptives can be important factors of family planning use. Among many other variables, unmet need for family planning (UMNFP) is one of important factor for population growth. The UMNFP is defined as "the proportion of married women of reproductive age who do not use any method but wish to delay their next pregnancy or who do not wish to have any more children" (PDHS, 2018). A proper implemented FP programmes can work to decrease UMNFP.

Family planning services provide numerous benefits for the health of women and the community as a whole. Pregnancy and abortion rates are reduced, and the rate of maternal mortality is kept under control as a result of this intervention. The use of FP and reproductive health programmes in developing nations has been shown to have a significant impact on improving child and mother health by decreasing fertility. UMNFP is likely to reduce the birth interval of child which can lead to poor health of newborn babies as a result, more chances to increase child mortality (Wulifan et al., 2017; Shahzadi & Ahmad, 2018).

In 1990, Pakistan's population was 107 million (World Bank, 2020) which almost doubled in 30 years and reached 215.6 million at an annual rate of 1.8% in 2021 (GOP, 2021). Pakistan has been at sixth position in world population due to rapid and persistent population growth (GOP, 2020). A sharp increase in population reduces individuals' income, savings as well as investment. As a result, capital formation is slow down and job opportunities are declined, thus enhanced unemployment and poverty. Also, average complementary resources per worker are reduced as labor force rises for scarce resources like land and capital. FP is accepted as an effective instrument to control the population growth. In 1953, a FP programme was launched in Pakistan by an NGO named "Family Planning Association of Pakistan" which advocated and facilitated reduced family size. The present



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Pakistan Government gives priorities to FP services. A number of local and international NGOs have also focused on the distribution of FP services in the country (PDHS, 2018).

Contraceptives use has been increasing around 1% per year since 1990. But still, UMNFP exists in Pakistan, where 56% of reproductive married women intend to use FP services. However, only 39% of women were using these services. In Pakistan, the prevalence of UMNFP was found to be 17.3% with 9.5% spacing and 7.8% limiting during 2017-18 (PDHS, 2018). Family planning (FP) is acknowledged as an efficient method for reducing population and enhancing child and mother health. The Pakistani government has continually worked to enhance the accessibility of family planning services. The purpose of this study is to investigate the effect of UMNFP on dynamics of family size in Pakistan.

METHODOLOGY

In this paper, we investigate the effect of socio-economic determinants of family size in Pakistan. Dependent variable of our study is binary variable. For this purpose, we applying binary logistics regression because dependent variable is divided into two category, i.e., family size less than four, coded as 1 and family size at least four, coded as 2. In our study, we have utilized micro level household data of Pakistan Demographic and Health Survey 2017-18. The functional form of the model is as given below

FSD = f(WED, WSWH, WES, OLH, WPDM, HED, EMM, ROR, UMNFP)

Where

Family size dynamics (FSD)

FSD is divided into two categories. If women have less than 4 children then coded as 1 and if women have four or more than four children then it is also coded as 2.

Women's Education (WED)

Women's education has been categorized into two categories. Coded as 1, if the women or mother has no education or attained maximum five year education (considered as less than secondary education) and coded as 2 if the mother has completed maximum ten year education or attained higher education (considered as at least secondary education).

Wealth Status of Women's Household (WSWH)

Wealth status of mother's household is constructed by utilizing the information of residence and household asset characteristics. Each household is given a score for every characteristic (assets and residence), and summation of the score is taken for each household. Each individual is ranked according to the household scores in which they reside. This variable has been categorized into two categories. Coded as 1, if the women or mother has belonged to poorest, poorer and middle wealth quintiles (considered as poorer) and coded as 2 if the mother has belonged to richer and richest wealth quintiles (considered as richest).

Women's Employment Status (WES)

Women's employment status has been divided into two categories. If women are currently not working then coded as 0, and if women are currently working then coded as 1.

Ownership of Land/House (OLH)

Ownership of land/house is categorized into two categories. If women have ownership of land/house then coded as 1 and otherwise coded as 0.

Women's Participated in Decision Making (WPDM)

Women's participated in decision making has been measured through women's involvement in decision about major household consumption. The variable is classified into two categories. Coded as 1, if the woman has participated in household decision making regarding consumption and if woman has not participated then coded as 0.

Husband's Education (HED)

Husband's education has been categorized into two categories. Coded as 1, if the women or mother has no education or attained maximum five year education (considered as less than secondary education) and coded as 2, if the mother has completed maximum ten year education or attained higher education (considered as at least secondary education).





Exposure to Mass Media (EMM)

The PDHS offers information on households that own a television or radio as well as the sort of health message given to women via these mediums. In the models of birth spacing, this variable measured through the information of households' ownership of a radio or television, along with the type of health message delivered to women through these media. The existence of television (TV) at household has been used as a proxy for this variable. If household have presence of the TV then coded as 1, otherwise 0.

Region of Residence (ROR)

Women's residence is divided into two categories. If women belong to urban areas then coded as 1 and if women belong to rural areas then coded as 2.

Unmet Need for Family Planning (UMNFP)

UMNFP is categorized into two categories, women having UMNFP (spacing and limiting), then coded as 1 and women not having UMNFP then coded as 0.

RESULTS AND DISCUSSIONS

In this study, we investigate the effect of unmet need for family planning on family size in Pakistan.

Dependent Variable: Family Size				
Independent Variables		В	Sig.	Exp (β)
Women's Education	Less than Secondary	Reference		
	At Least Secondary	226	.000	0.673
Wealth Status of Household	Poor	Reference		
	Not Poor	254	.000	0.710
Women's Employment Status	Currently Unemployed	Reference		
	Currently Employed	154	.016	0.797
Ownership of Land/House	No Ownership	Reference		
	Ownership	531	.184	0.299
Women's Empowerment	Less Empowered	Reference		
	More Empowered	023	.038	0.976
Husband's Education	Less than Secondary	Reference		
	At Least Secondary	083	.033	0.914
Exposure to Mass Media	No	Reference		
	Yes	016	.075	0.984
Region of Residence	Rural	Reference		
	Urban	249	.191	0.714
Unmet Need for Family Planning	No	Reference		
	Yes	.141	.000	1.132

Table 1: The effect of UMNFP on Family Size

Table 1 show the results of binary logistics regression. The odds ratio indicate that couple education increases family size decreases. In developing countries, better-educated couple have fewer children than less-educated couple. However, the reasons for this are less clear, since the benefits of education extend beyond the value of women's time. Education can reduce fertility because better-educated women earn more and may raise their children more effectively. Education also improves maternal and child health, thereby increasing a woman's physical capacity to give birth and reducing the (economic) necessity for more children. However, the fact that educated women tend to breastfeed for shorter periods lengthens their exposure to (a new) pregnancy. Nevertheless, understanding modern contraception helps women control birth. Finally, higher education empowers women and includes them in household decision-making on family planning (Raja & Iqbal, 2019; Anees & Yan, 2019; Singh, 2020; Zafar et al., 2021; Kim, 2023; Asif et al., 2023). The likelihood of family size decreases as wealth status of household increases. Wealth influence the number of children born depends partly on both community-level birth rates and contraceptive use, but not on community-level mortality and

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women's work status. Women's wealth increase the likelihood of contraceptive use, which in turn has a positive association with number of births; those using contraceptives have on average, more children. While seemingly counter-intuitive, this effect is well known in sub-Saharan Africa (Caldwell and Caldwell, 1987; Bledsoe et al., 1994; Mace and Colleran, 2009; Alvergne et al., 2013; Rehman & Malik, 2020; Khan, 2020; Asif et al., 2022; Audi & Roussel, 2024), where those women who adopt contraceptives are regularly the ones who already have many children and want to space or limit future births and where cultures of high fertility remain strong (Caldwell and Caldwell, 1987; Bledsoe et al., 1994; Ali & Bibi, 2017; Mbacké, 2017; Hameed, 2020; Asif et al., 2020; Akbar & Hayat, 2020; Russo, 2022; Asif and Pervaiz, 2022).

The outcomes show that the effect of women and husband employment on family size is negative and significant. Sociological arguments about the social norms against childlessness and the dynamic models of fertility predict that women will transition to motherhood more quickly during phases of unemployment (Adsera, 2011; Ashraf & Ali, 2018; Mehdi, 2019; Modibbo & Inuwa, 2020). The result shows that urban women have less family size as compared to rural women. Most generally, we expect urban residence to decrease rates of childbearing overall. That is, women who reside in urban areas will, net of other characteristics, have lower fertility rates (White et al., 2008; Ahmad et al., 2014; Audi & Ali, 2016; Qaiser et al., 2021; Mubeen et al., 2023; Ali et al., 2024). The odd ratios indicate that those women who participate in decision-making have less family size as compared to those women who do not participate in decision-making. Women empowerment is helpful in reducing the fertility because the more empowered the women are, the fewer the children are borne is an indicator of current fertility level and ideal number of children is an indicator of future fertility preferences and higher birth intervals is also an indicator of future fertility preferences. The likelihood of family size increases also child mortality increases. Countries with low infant mortality almost always have low birth rates (Heer, 1966; Mauldin et al., 1978; Abdullah et al., 2013; Adeel, 2019; Mahmood et al., 2022; Asif et al., 2024; Asif et al., 2024). Couples that have lost a child are, in turn, less likely to use contraception, tend to have more children, and have shorter birth intervals.

The likelihood of family size is lower among women who have more informative than those women who have less informative. Exposure to mass media results in greater knowledge and awareness, as well as changes in attitudes, social norms, and behaviors, which can have beneficial effects on public health (Gustav et al., 2014). Unmet need for family planning is an important factor that affects family size. The likelihood of family size is higher among women who have UMNFP than those women who have no UMNFP. UMNFP results in closely spaced births at a very young age (Bankole et al., 2014) which sometimes causes abortion and poor maternal health which are considered as a major contributor to poor child's health, high maternal and child death and high fertility rate (Wulifan et al., 2017).

CONCLUSIONS AND RECOMMENDATIONS

Family size is very important aspect of a women's life. In most of the societies childbearing plays a pivotal role and women's status is linked with the number of children. Although past studies has suggested women's participation plays crucial role in the decisions regarding reproduction and family planning but very limited research has been conducted in Pakistan on the role of women empowerment and UMNFP on family size in Pakistan. The study has made an attempt to fill this gap in the existing literature. The results indicate that couple education increases family size decreases. The likelihood of family size decreases as wealth status of household and ownership of household and land increases. The outcomes show that the effect of women's employment on family size is negative and significant. The result shows that urban women have less family size as compared to rural women. The odd ratios indicate that those women who participate in decision-making have less family size as compared to those women who do not participate in decision-making. The likelihood of family size increases also unmet need for family planning increases. The results conclude that UMNFP is important determinants of family size in Pakistan.

The empirical results of this study suggest that, education especially women's education can be used as an important tool to reduce UMNFP. Women's access to education should be ensured. Education will enhance their awareness not only for reproductive health and usage of modern contraceptives but also for gaining empowerment in their family. In this way, women can have an effective role in decision regarding fertility, use of contraceptives



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and size of their family. In addition, population growth can be controlled through launching of an effective campaign through mass media to create awareness among people about the availability and good quality contraceptives may help to reduce people's fear of side effect for using contraceptive. Provision of employment opportunities, as another tool is used to reduce UMNFP as well as fertility rate. The Employed women are considered to be more empowered, as they are in better position in taking decisions about use of family planning methods and their family size. Cultural and social hurdles of women employment need to be removed through an effective public policy, mass spread of education and an effective media campaign.

Religious scholars and community leaders have to be engaged to convey and convince people about the effectiveness of family planning programme and its benefits. Hence, the rural areas need to be particularly more focused regarding awareness/knowledge of family planning programme as compared to urban areas in the country. Government should promote nongovernmental organizations (NGOs) and government agencies to expand and diversify public and private sector sources of family planning information and services in order to increase availability. The access of low cost or subsidize family planning services across socioeconomic groups' especially younger women having longer period of reproductive age and reduce unintended pregnancies as well as fertility rate.

REFERENCES

- Abdullah, M., Chani, M. I., Ali, A., & Shoukat, A. (2013). Co-Integration Between Fertility and Human Development Indicators: Evidence from Pakistan. *Middle-East Journal of Scientific Research*, 15(4), 586-591.
- Adsera, A. (2011). Where are the babies? Labor market conditions and fertility in Europe. *European Journal of Population*, 27(1), 1-32.
- Ahmad, K., Ali, A., & Chani, M. I. (2014). Does Foreign Aid to Social Sector Matter for Fertility Reduction? An Empirical Analysis for Pakistan. *The Bangladesh Development Studies*, *37*(4), 65-76.
- Ali, A., & Bibi, C. (2017). Determinants of social progress and its scenarios under the role of macroeconomic instability. *Pakistan Economic and Social Review*, 55(2), 533-568.
- Ali, S., Asif, M. F., Khan, M. K., Fatima, N., Safdar, H., & Lassi, Z. S. (2020). Moderating role of husband's education and employment on female labor force participation in Pakistan. *Ilkogretim Online*, 19, 5265– 5276.
- Ali, S., Ibrahim, M., Asif, M. F., Zaman, Q., & Afridi, J. R. (2024). The interactional effect of women's education and place of residence on female labor force participation in Pakistan. *Bulletin of Business and Economics*, 13(3), 492-499.
- Alvergne, A., Lawson, D. W., Clarke, P. M., Gurmu, E., & Mace, R. (2013). Fertility, parental investment, and the early adoption of modern contraception in rural Ethiopia. *American Journal of Human Biology*, 25(1), 107-115.
- Arthur, J. L. (2005). Family size and its socio-economic implications in the Sunyani municipality of the Brong-Ahafo region of Ghana, West Africa. *Centre for Development Studies, University of Cape Coast, Ghana*, 27-29.
- Ashraf, I., & Ali, A. (2018). Socio-Economic Well-Being and Women Status in Pakistan: An Empirical Analysis. Bulletin of Business and Economics (BBE), 7(2), 46-58.
- Asif, M. F., & Pervaiz, Z. (2019). Socio-demographic determinants of unmet need for family planning among married women in Pakistan. *BMC Public Health*, 19(1), 1-8.
- Asif, M. F., Ali, M., Abbas, H. G., Ishfaq, T., Ali, S., Abid, G., & Lassi, Z. S. (2024). Access and knowledge of contraceptives and unmet need for family planning in Pakistan. *BMC Women's Health*, 24(1), 651.
- Asif, M. F., Ali, S., Ali, M., Abid, G., & Lassi, Z. S. (2022). The moderating role of maternal education and employment on child health in Pakistan. *Children*, 9(10), 1559.
- Asif, M. F., Ibrahim, M., Noor, M. Y., & Zaman, Q. (2024). Causal factors of unmet need for family planning in Pakistan. *Journal of Policy Research*, 10(3), 142-147.
- Asif, M. F., Ishtiaq, S., Abbasi, N. I., Tahir, I., Abid, G., & Lassi, Z. S. (2023). The interaction effect of birth spacing and maternal healthcare services on child mortality in Pakistan. *Children*, *10*(4), 710.



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- Asif, M. F., Khalid, S., Khalid, K. S., & Abid, G. (2021). Effect of mother's employment on child mortality in Pakistan: Moderating role of mother's empowerment. *Journal of ISOSS*, 7(4), 175-186.
- Asif, M. F., Meherali, S., Abid, G., Khan, M. S., & Lassi, Z. S. (2022). Predictors of child health in Pakistan and the moderating role of birth spacing. *International Journal of Environmental Research and Public Health*, 19(3), 1759.
- Asif, M. F., Pervaiz, Z. (2022). Determinants of child mortality in Pakistan: Moderating role of mother's education. *Journal of ISOSS*, 8, 29-40.
- Asif, M. F., Pervaiz, Z., Afridi, J. R., Safdar, R., Abid, G., & Lassi, Z. S. (2022). Socio-economic determinants of child mortality in Pakistan and the moderating role of household wealth index. *BMC Pediatrics*, 22(1), 1-8.
- Asif, M. F., Safdar, H., & Ali, S. (2020). Factors affecting the performance of school students: A case study of Bahawalpur. *Ilkogretim Online*, *19*, 3650-3660.
- Audi, M., & Ali, A. (2016). A causality and co-integration analysis of some selected socio-economic determinants of fertility: Empirics from Tunisia. *Bulletin of Business and Economics (BBE)*, 5(1), 20-36.
- Beydoun, M. A. (2001). Marital fertility in Lebanon: A study based on the population and housing survey. *Social Science & Medicine*, *53*(6), 759-771.
- Bledsoe, C. H., Hill, A. G., d'Alessandro, U., & Langerock, P. (1994). Constructing natural fertility: The use of Western contraceptive technologies in rural Gambia. *Population and Development Review*, 20, 81-113.
- Broz, M. (2022). Economic Development and Its Influence on Food Innovation and Consumption Trends. *Journal* of Policy Options, 5(4), 8-14.
- Caldwell, J. C., & Caldwell, P. (1987). The cultural context of high fertility in sub-Saharan Africa. *Population and Development Review*, 13, 409-437.
- Carroll, J. (2007). Americans: 2.5 children is 'ideal' family size. Gallup News Service.
- Chandra, D. (2000). Understanding socio-cultural factors affecting demographic behavior and the implications for population policies and programs. *Population Studies Programme, University of the South Pacific.*
- Dreze, J., & Murthi, M. (2001). Fertility, education, and development: Evidence from India. *Population and Development Review*, 27(1), 33-63.
- Garenne, M., & Joseph, V. (2002). The timing of the fertility transition in sub-Saharan Africa. *World Development,* 30(10), 1835-1843.
- Government of Pakistan. (2020). Economic Survey of Pakistan 2020-21.
- Government of Pakistan. (2021). Economic Survey of Pakistan 2021-22.
- Heer, D. M. (1966). Economic development and fertility. *Demography*, 3, 423-444.
- Huseyin, E. (2023). Financial Performance Metrics in Family vs Non-Family CEOs of Family-Owned Firms. Journal of Policy Options, 6(2), 1-8.
- Hydari, M. A., Abid, G., Asif, M. F., Butt, T. H., & Lassi, Z. S. (2019). The effects of COVID-19 pandemic: An exploratory study of Pakistan. *International Journal of Disaster Recovery and Business Continuity*, *12*(1), 1431-1449.
- Kim, J. (2023). Female education and its impact on fertility. IZA World of Labor.
- Mace, R., & Colleran, H. (2009). Kin influence on the decision to start using modern contraception: A longitudinal study from rural Gambia. *American Journal of Human Biology*, 21(4), 472-477.
- Mbacké, C. (2017). The persistence of high fertility in sub-Saharan Africa: A comment. *Population and Development Review*, 43, 330-337.
- McLaren, A. (1977). Women's work and regulation of family size. *History Workshop Journal*, 4(1), 70-81.
- Modibbo, H., & Inuwa, N. (2020). Health Outcomes and Economic Growth Nexus: Evidence from Nigeria. Journal of Business and Economic Options, 3(2), 46-55.
- Mubeen, S., Asif, M. F., & Kiran, A. (2023). Socio-economic empowerment of women with sustainable development goal 5: An assessment. *IBT Journal of Business Studies*, 19(1), 48-64.
- Naeem, M., & Hameed, F. (2019). Assessing the Impact of Climate Change on Cash and Food Crop Production in Pakistan: Insights and Adaptation Strategies. *Journal of Policy Options*, 2(3), 58-65.
- National Institute of Population Studies. (2018). Pakistan Demographic and Health Survey 2017-18.



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- Senbeta, R. (2023). Assessing the impact of small-scale irrigation on food security in Gorogutu District, Ethiopia. *Journal of Policy Options*, 6(4), 12-19.
- Shahzadi, R., & Ahmad, J. (2018). Examining Global Media Influence: Understanding the Impact on Pakistani Culture. *Journal of Policy Options*, 1(4), 97-103.
- Sharma, A., & Pandey, K. K. (2021). Understanding and Addressing Farmer Suicides in India: Trends, Causes, and Remedies. *Journal of Business and Economic Options*, 4(2), 7-16.
- Singh, C. (2020). Understanding Risk and Protective Factors for Spousal Violence in the Indian Context: Implications for Prevention and Intervention. *Journal of Policy Options*, 3(2), 35-43.
- United Nations. (2017). World population aging.
- White, M. J., Muhidin, S., Andrzejewski, C., Tagoe, E., Knight, R., & Reed, H. (2008). Urbanization and fertility: An event-history analysis of coastal Ghana. *Demography*, 45, 803-816.
- World Bank. (2020). World development indicators.
- Wulifan, J. K., Jahn, A., Hien, H., Ilboudo, P. C., Meda, N., Robyn, P. J., & De Allegri, M. (2017). Determinants of unmet need for family planning in rural Burkina Faso. *BMC Pregnancy and Childbirth*, 17(1), 426.
- Zafar, R., Abid, G., Rehmat, M., Ali, M., Hassan, Q., & Asif, M. F. (2021). Impact of punitive supervision on turnover intention. *Total Quality Management & Business Excellence*, 33(5-6), 614-636.