Statistical analyses to determine the factors associated with early age at marriage or union among married South African women

Author: Tshaudi Motsima[1]

Corresponding author: Tshaudi Motsima <MotsimaT@tut.ac.za>

Abstract

Status characteristics including race, sexuality, and gender identity play a significant role in people's access to health and healthcare coverage. Despite documented disadvantages across these individual statuses (e.g., race), little research has investigated how the intersection of statuses affect health coverage. Drawing on an intersectional framework, this study uses data from the 2021 Behavioral Risk Factor Surveillance System to examine the association between health insurance and the intersections of race-ethnicity, sexual orientation, and gender identity (n=206,338). This study offers three important contributions to the research literature. First, this study represents one of the first to examine the intersection of important social status characteristics and health insurance status. Second, this study examines three indicators of healthcare coverage including status (i.e., insured or not), type (i.e., public, private, employer-based, or none), and denial of coverage (i.e., insurance refused to pay for cancer treatment). Third, we investigate healthcare disparities using data representative of thirty-two states that more holistically assess people's healthcare status and allow for greater generalizability. Findings show that Hispanic straight cismen are the least likely group to have insurance. White trans adults appear to be more likely to have insurance than many other groups. Trans adults are more likely to have public insurance if they are ethnoracially marginalized. Straight Black women have high likelihoods of their insurance denying coverage. These findings highlight critical gaps in access to healthcare and myriad disadvantages in coverage. Efforts to improve population health would benefit from an intersectional lens that focuses on how multiple status characteristics shape people's access to healthcare across the life course.

[1] Tshwane University of Technology, Faculty of Science, Department of Mathematics and Statistics, Pretoria, South Africa

Introduction

Marriage has a strong influence on a variety of demographic, social, and economic phenomena and the age at which a woman enters first marriage or union has key relations to population growth, health, fertility rates, woman's development, socio-economic indicators relating to women in society (Bloom and Reddy 1986; Islam and Rahman 2020; Mahdaviazad 2019; Statistics South Africa 2023). In South Africa, the Marriage Act, Act 25 of 1961 allows minors to get married (Government of South Africa 1961). It stipulates that persons under the age of 21 years who have never been married before and are intending to get married for the first time, need the consent from their parents or guardians or of a judge of the Supreme Court if the refusal of the parents is considered inadequate and contrary to the interests of such minor (Government of South Africa 1961). Males under the age of 18 years and females under the age of 15 years who would like to marry need the consent of the Minister of Home Affairs in addition to the consent of their parents (Government of South Africa 1961; Statistics South Africa 2023). Due to the existence of the Marriage Act, Act 25 of 1961, it is possible that there are minors that get married legally in South Africa. For example, it is reported that in 2021 five males and 32 females younger than 18 years got married (Statistics South Africa 2023). Again, the possibility of minors cohabiting cannot be ruled out.

Cohabitation or a living together like married couples arrangement is not recognized legally as a marriage in South Africa and there is no law that supports it (Dippenaar 2023). Although cohabitation is not recognized as a marriage, there are South Africans who embrace it (Moore and Govender 2013). Research shows that cohabitation patterns take a different path for different racial groups (Moore and Govender 2013). It is high on Black South Africans than on White South Africans (Moore and Govender 2013). Many Black South Africans cohabit way into their forties whereas many White South Africans get married after the age of 30 years (Moore and Govender 2013).

Marriage comes with roles and responsibilities or marriage practices and married women are expected to play their roles as wives and mothers in addition to other commitments such as work commitments for those who work (Mafela 2014; Moorosi 2007). South Africa is a culturally diverse country and the roles and responsibilities of married women differ by culture (Mafela 2014). Traditionally, men and women have different roles in a marriage (Sindane and Ojong 2019). The main role of the man is to provide for the family while the role of the woman includes cooking, cleaning, housekeeping and childcare (Sindane and Ojong 2019; Moorosi 2007). Although times have changed and women have careers and participate in the economy, they are still obligated to carry out their duties in the marriage (Sindane and Ojong 2019). However, some men understand that times have changed and they help their wives with household duties (Sindane and Ojong 2019).

Career women who marry at young ages might find it difficult to strike a balance between work and family duties as they are still in the learning stages of both the responsibilities of working and family building (Moorosi 2007). They are still in the early stages of their careers which require them to learn and at the same time they are young in marriages and have to make their

marriages work (Moorosi 2007). They have to perform their duties as mothers and wives at home and their young children need their full attention (Moorosi 2007).

There are benefits and consequences for both early age at marriage and marrying late. The benefits of early marriage include increased fertility rate and long birth intervals (Islam and Rahman 2020; Gurmu and Etana 2014). Conversely, early age at marriage is associated with poverty, low education levels, low social status and low rates of labour force participation (Goni and Rahman 2012; Bloom and Reddy 1986). Delayed marriage causes women to enter into premarital sexual activities and have unwanted or unplanned pregnancies or children outside wedlock (Mahdaviazad 2019). Also, delayed marriage is associated with short birth spacings which put mothers and children at risks of poor maternal and child health outcomes and/or maternal and child mortality (Ajayi and Somefun 2020). The benefits of delayed marriage include financial security, social support and better knowledge of people to inform selection of an optimal spouse (Mahdaviazad 2019). People who delay entry into marriage are more mature and less likely to make mistakes regarding their own traits and those of their partners, can be able to make better-informed decisions and have more stable marriages (Lehrer and Son 2017). Delayed marriage permits women and girls to increase their educational attainment, participate in the labour force, acquire parental skills prior to marriage and increase their social status (Baruwa, Amoateng and Biney 2019).

The age at which women get married might be affected by the domestic roles they are expected to play at home and other roles outside the marriage or home. There is a variety of socio-economic and demographic factors that have influence in the timing of age at first marriage or union (AFMU). Little research to identify the factors associated with the timing of AFMU among married or cohabiting women has been done in South Africa. The main aim of this study is to determine the factors that are associated with AFMU among married or cohabiting South African women. The findings of this study will enable the South Africans, people in positions of authority, influential people and policy makers to understand better the attributes of the timing of entering into first marriage by South African women. The government of South Africa and other governments in developing countries will benefit from the findings of this study and align their policies to reduce the risk of early AFMU in their respective countries.

Literature review

There are a couple of studies wherein the (socio-economic and demographic) factors associated with age at first marriage have been studied (Gurmu and Etana 2014; Lwaki 2012; Ariho and Kabagenyi 2020). Some of those factors that are found to be associated with AFMU are reviewed and discussed briefly.

First birth interval in marriage is a key stage in the family building process (Hussien and Mustafa 2013). Family building process starts from the first birth up to the last one that determines the immediate family size of the married couple (Hussien and Mustafa 2013). Evidence shows that the time from marriage to first birth interval is long for women who marry early and short for women who marry late (Gurmu and Etana 2014). Women who marry late

are those with high educational attainments, high wealth status and most of them reside in urban areas (Gurmu and Etana 2014; Lwaki 2012). They marry late and knowing that they are left with a short reproductive age they have their first births shortly after marriage (Lwaki 2012).

Early age at first sexual intercourse is associated with increased probability of entry into first marriage at a young age (Lwaki 2012; Ariho and Kabagenyi 2020). Evidence shows that Kenyan women who enter first sexual intercourse before the age of 20 years and Ugandan women who enter sexual debut before turning 18 years old are associated with AFMU (Lwaki 2014; Islam and Rahman 2020; Ayiga 2013).

Although children can be born outside wedlock or before marriage, one of the main reasons of marriage is to have children (Islam and Rahman 2020). Postponing marriage diminishes the duration of time available for childbearing while marrying early has a high likelihood to boost number of children ever born to the woman (Islam and Rahman, 2020: 775). Women who marry late are likely to have closely spaced children to achieve their target of total number of children ever born, although those who are knowledgeable about the risks of having closely spaced children would have long birth intervals (Ajayi and Somefun 2020).

Household size in this study refers to the total number of members of the household as reported in the 2016 SADHS (Department of Health, Statistics South Africa, South African Medical Research Council and ICF 2019: 27). This includes all people who live in the household and not only the respondent, her partner and their children. Family size preference is about the size of the family the respondent yearns to have and not the current total number of household members living in the household. Previous studies have focused on the relationship between family size preferences and change in fertility and not on the relationship between AFMU and household size (Ariho and Kabagenyi 2020). This study would like to investigate the relationship between AFMU and household size.

Evidence shows that ethnicity is a predictor of age at first marriage in the United States of America, Sudan and Malawi (Baruwa, Amoateng and Biney 2019; Manning, Brown and Payne 2014; Hussien and Mustafa 2013). Black women have median age at first marriage that is about 4 years greater (30.3 years) than the age at first marriage experienced by White (26.4 years) and Hispanic women (25.9 years) in the United States of America (Manning, Brown and Payne 2014). In Sudan, women from Blue Nile ethnic group are more likely to be married earlier than women from North ethnic group (Hussien and Mustafa 2013). In Malawi women who belongs to the Chewa ethnic group tend to delay marriage as compared with all other ethnic groups (Baruwa, Amoateng and Biney 2019).

Education plays an important role in the life of a person (Al-Shuaibi 2014). It develops human personality, thoughts and social skills (Al-Shuaibi 2014). It is good for human development and for the maintenance of the socially responsive economic system (Modisaotsile 2012). It helps people to obtain decent formal jobs and to some extend give them the skills to create job opportunities for themselves and others (Modisaotsile 2012). Evidence shows that education level of the woman is associated with AFMU (Alazbih et al. 2023; Mahdaviazad et al. 2019).

Women with high educational attainments marry late (Alazbih et al. 2023; Baruwa, Amoateng and Biney 2019; Gurmu and Etana 2014; Lwaki 2012; Ayiga 2013). They marry late because they spent a lot of time focusing on education and building their careers (Islam and Rahman 2020). Conversely, uneducated women marry early (Gurmu and Etana 2014).

Evidence shows that wealth status of a woman is associated with the timing of AFMU (Alazbih et al. 2023; Baruwa, Amoateng and Biney 2019). Women from poor families are prone to early marriage as compared to women from wealthy families (Baruwa, Amoateng and Biney 2019). Thus, poverty increases the likelihood for early marriage (Baruwa, Amoateng and Biney 2019). It is reported that Bangladesh women with highest wealth index are associated with marrying late as compared to women with lowest wealth index (Goni and Raman 2012). However, findings of a study from Malawi reveals the opposite to those of Bangladesh by reporting that the risk of marrying early is associated with middle and rich women as compared to poor women (Baruwa, Amoateng and Biney 2019).

Respondents were asked if they were covered by medical aid, medical benefit scheme, provident scheme, or hospital plan that helps them pay for health care or drug services (Department of Health, Statistics South Africa, South African Medical Research Council and ICF 2019). Health insurance coverage gives women of different income levels access to similar health care services including the purchasing of medicine which may include contraception drugs or medicine (Ranji et al. 2007). At the time of conducting this study there was no evidence of research conducted to assess the relationship between AFMU and health insurance coverage. This study would like to investigate the relationship between AFMU and health insurance coverage.

Contraceptives are often used to delay or avoid pregnancy which in turn can lengthen the time between first marriage and first birth interval in a marriage (Lwaki 2012; Gurmu and Etana 2014). Family planning programs include contraception which is key for birth control and family planning (Götmark and Andersson 2020). Contraceptive practices differ by population groups, socio-economic status, place of residence and region (Gurmu and Etana 2014). Other than contraceptive use method, it is possible that there are other methods used to delay or avoid pregnancy. For example, abstention from sexual intercourse activities. This study would like to investigate the relationship between AFMU and whether the woman tried to do something to delay or avoid getting pregnant.

Place of residence is often associated with AFMU with rural areas more likely to be associated with early AFMU than urban areas (Lwaki 2012). Urban residents have the advantage of having access to better infrastructure, formal education and formal and better remunerating jobs than rural residents (Baruwa, Amoateng and Biney 2019; Lwaki 2012). Research reveals that Ugandan women who reside in urban areas are associated with late first marriage (Ayiga 2013).

Data and methods

Data used

The data used in this study come from the 2016 South African Demographic and Health Survey (SADHS). The 2016 SADHS was a nationally representative cross-sectional survey that collected information from 8 514 women aged 15 – 49 years which included amongst others; history of women's AFMU, education level, birth history, knowledge and use of family planning methods, marriage, sexual activity and fertility preferences (Department of Health, Statistics South Africa, South African Medical Research Council and ICF 2019).

Variables

The response variable is the woman's AFMU which is recorded in years. The explanatory variable includes a combination of bio-demographic and socio-economic factors. The bio-demographic factors considered are time from marriage to first birth interval, age at first sexual intercourse, total number of children ever born to the woman and whether a woman uses anything to try to delay pregnancy or avoid pregnancy and the socio-economic factors are household size, ethnicity, education level, wealth index, health insurance coverage and type of place of residence.

Exclusion criteria

Women who are never married or never stayed with partners like married couples, women who do not have children, women who had children before marriage or union and women who never had sexual intercourse were excluded.

Multiple linear regression

A regression analysis is a statistical technique used to investigate and model the relationship between one continuous response variable Y and one or more explanatory variables $X_1, X_2, \ldots, X_k$ (Montgomery, Peck and Vining 2012; Faraway 2009). Explanatory variables can be either continuous, discrete or categorical (Allen, Bennett and Heritage 2018; Faraway 2009). A linear regression model with one response variable and one explanatory variable is called a simple linear regression while a linear regression with one response variable and two or more explanatory variables is called a multiple linear regression model (Faraway 2009). A multiple linear regression between the response variable Y and the k explanatory variables is written as:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_k X_k + \varepsilon \tag{1}$$

where Y denotes the response variable, $X_1, X_2, \ldots, X_k$ denote the explanatory variables and ε denotes the random error (Montgomery, Peck and Vining 2012). The parameters α and β_{i_s} are regression coefficients and represent the expected change in the response variable Y per unit change in X_i when all of the remaining regressor variables X_{i_s} are held constant (Montgomery, Peck and Vining 2012).

The estimation and inference from the regression model must satisfy the assumptions that the errors are normally distributed, the errors are independent and identically distributed (*iid*) with mean 0 and variance σ^2, that is $\varepsilon \sim N\left(0, \sigma^2 I\right)$, the variance of the error term is homogeneous across the predicted values, the errors are uncorrelated (independent) and there is no multicollinearity (high correlation above 0.85) between explanatory variables (Allen, Bennet and Heritage 2018; Montgomery, Peck and Vining 2012; Faraway 2009). Violation of any of the mentioned assumptions will require alternative linear regression models such as, amongst others, multiple linear regression with heteroskedasticity-robust standard errors, weighted least squares (WLS) regression model, generalized least squares regression model or robust linear regression model be considered.

Multiple linear regression was implemented. Diagnostics of the model were done and heteroskedasticity of variance of the residuals was identified graphically and the Breusch-Pagan test of heteroskedasticity confirmed the presence of non-constant variance. Five alternative models were then employed, multiple linear regression with heteroskedasticity-robust standard errors, weighted least squares regression model with absolute residuals values weighting scheme, weighted least squares regression model with squared residuals weighting scheme, weighted least squares regression model with log of squared residuals weighting scheme and weighted least squares regression model with squared fitted values weighting scheme.

Data analysis was done using STATA 14.

Results

Summary statistics

Table 1 presents the summary of the statistics of the response variable and the explanatory variables of quantitative continuous and quantitative discrete data types. The averages of AFMU, marriage to first birth, age at first sexual intercourse, total number of children ever born and household size are 19.6 years, 29.4 years, 18.0 years, 2.6 children and 4.6 household members, respectively. On the other hand, the medians of AFMU, time from marriage to first birth, age at first sexual intercourse, total number of children ever born and household size are 19.0 years, 19.0 years, 18.0 years, 2.0 children and 4.0 household members, respectively.

Table 1: Covariates characteristics of quantitative continuous and discrete data types

Variables	Mean	Median	Standard deviation	N
Age at first marriage or union	19.6	19.0	4.097	1 294
Marriage to first birth	29.4	19.0	31.6	1 294
Age at first sexual intercourse	18.0	18.0	2.897	1 294
Total number of children ever born	2.6	2.0	1.344	1 294
Household size	4.6	4.0	2.351	1 294

Table 2 presents the summary statistics of the explanatory variables of qualitative discrete data type. Of the 1 294 women analysed in this study, 1 012 (78.2%) women use other things to delay pregnancy or avoid getting pregnant and 282 (21.8%) do nothing to either try to delay pregnancy or avoid getting pregnant. About 1 039 (80.3%) are Blacks/Africans, 91 (7.0%) are Whites, 129 (10.0%) were Coloureds and 35 (2.7%) were Indians/Asians.

Table 2: Covariates characteristics of nominal data type

Variables	Categories	N (%)
Pregnancy delay	Yes	1 012 (78.2%)
	No	282 (21.8%)
Ethnicity	Black/African	1 039 (80.3%)
	White	91 (7.0%)
	Coloured	129 (10.0%)
	Indian/Asian	35 (2.7%)
Education level	Higher	174 (13.5%)
	Secondary	887 (68.6%)
	Primary	192 (14.8%)
	No education	41 (3.2%)
Wealth index	Poor	527 (40.7%)
	Middle	264 (20.4%)
	Rich	503 (38.9%)
Health insurance coverage	Yes	117 (9.0%)
	No	1 177 (91.0%)
Place of residence	Urban	756 (58.4%)
	Rural	538 (41.6%)
Total		**1 294**

Approximately 174 (13.5%) women have higher education level, 887 (68.6%) have secondary education level, 192 (14.8%) have primary education level and 41 (3.2%) have no education.

About 527 (40.7%) women are poor, 264 (20.4%) are middle-class and 503 (38.9%) are rich. Roughly, 117 (9.0%) women have health insurance coverage while 1 177 (91.0%) do not have it. Approximately 756 (58.4%) and 538 (41.6%) women are based in urban and rural areas, respectively.

Results of the weighted least squares regression model

Table 3 presents the results of the three models. Model I represents the results of multiple linear regression model with heteroskedasticity-robust standard errors. The WLS regression models with absolute residuals, squared residuals and log of squared residuals weighting schemes outputted the same (duplicate) results. So, their results are represented by Model II in Table 3 while Model III represents the results of the WLS regression model with squared fitted values weighting scheme. Model II has the lowest Akaike Information Criterion and the lowest Bayesian Information Criterion implying that it is the best model among the three models. The results interpreted here are those of Model II. Each beta coefficient of each independent variable is interpreted with the condition that all other factors are held constant.

Table 3: Results of multiple linear regression with robust standard errors

Variable		Model I		Model II		Model III	
		Beta (S.E)	p-value	Beta (S.E)	p-value	Beta (S.E)	p-value
Marriage to first birth		-0.03 (0.004)	0.000	-0.04 (0.003)	0.000	-0.03 (0.003)	0.000
Age at first sex		0.46 (0.045)	0.000	0.55 (0.032)	0.000	0.40 (0.034)	0.000
Total number of children ever born		-0.54 (0.074)	0.000	-0.41 (0.065)	0.000	-0.50 (0.076)	0.000
Pregnancy delay	Yes	(-)	(-)	(-)	(-)	(-)	(-)
	No	-0.25 (0.237)	0.289	-0.35 (0.197)	0.072	-0.28 (0.226)	0.221
Household size		0.02 (0.017)	0.659	0.03 (0.035)	0.393	0.03 (0.042)	0.525
Ethnicity	Black/African	(-)	(-)	(-)	(-)	(-)	(-)
	White	-0.06 (0.391)	0.880	0.02 (0.390)	0.967	-0.15 (0.445)	0.743
	Coloured	0.03 (0.325)	0.935	0.04 (0.298)	0.889	-0.04	0.902
	Indian/Asian	-0.47 (0.649)	0.472	-0.63 (0.556)	0.256	-0.44 (0.651)	0.496
Education level	Higher	(-)	(-)	(-)	(-)	(-)	(-)
	Secondary	-2.07 (0.301)	0.000	-2.23 (0.295)	0.000	-2.18 (0.346)	0.000
	Primary	-3.16 (0.391)	0.000	-3.21 (0.358)	0.000	-3.49 (0.420)	0.000
	No education	-1.79 (0.685)	0.009	-2.13 (0.541)	0.000	-1.82 (0.611)	0.003
Wealth index	Poor	(-)	(-)	(-)	(-)	(-)	(-)
	Middle	0.25 (0.250)	0.323	0.07 (0.215)	0.755	0.28 (0.251)	0.264
	Rich	0.96 (0.292)	0.001	0.71 (0.240)	0.003	1.03 (0.280)	0.000
Health insurance coverage	Yes	(-)	(-)	(-)	(-)	(-)	(-)
	No	-0.67 (0.375)	0.073	-0.68 (0.334)	0.041	-0.79 (0.385)	0.041
Place of residence	Urban	(-)	(-)	(-)	(-)	(-)	(-)
	Rural	-0.41 (0.220)	0.063	-0.33 (0.192)	0.087	-0.38 (0.223)	0.041
		AIC = 6753.721		AIC = 6415.597		AIC = 6806.459	
		BIC = 6836.36		BIC = 6498.245		BIC = 6889.106	

Time from marriage to first birth interval is associated with AFMU ($p < 0.001$). Women who delay first birth intervals accelerate entry into first marriage or union by, on average, 0.04 years as compared to women who did not delay first marriage or union. Age at first sexual intercourse is associated with AFMU ($p < 0.001$).

Women who initiated sexual intercourse at older ages postpone entry into first marriage or union by, on average, 0.55 years as compared to women who initiated sexual intercourse early. Total number of children ever born is associated with AFMU ($p < 0.001$). Women with high number of children ever born fast-track entry into marriage or union by, on average, 0.41 years as compared to women with few children ever born. Women with secondary education level ($p < 0.001$), primary education level ($p < 0.001$) and those with no education ($p < 0.001$) are associated with early AFMU as compared to women with high education level. Women with secondary education level accelerate entry int marriage or union by, on average, 2.23 years as compared to women with high education level. Women with primary education level fast-track entry into marriage or union by, on average, 3.21 years as compared to women with high education level. Uneducated women rush entry to marriage or union by, on average, 2.13 years as compared to women with high education level.

Wealth index is associated with AFMU. Rich women are more likely to delay first marriage or union by, on average, 0.71 years as compared to poor women ($p = 0.003$). Health insurance coverage is associated with AFMU ($p = 0.041$). Women that do not have access to health insurance coverage are more likely to enter quickly into first marriage or union by, on average, 0.68 years as compared to women who do not have access to health insurance coverage.

Discussion

The factors associated with AFMU among married or cohabiting South African women were investigated. The results reveal that marriage to first birth interval, age at first sexual intercourse, total number of children ever born to the woman, education level, wealth index and health insurance coverage are important predictors of AFMU.

Marriage is about creating a family and having children. In some cultures, the married woman is judged by her ability to give live birth. First birth intervals are key in marriage for the married women to proof their capabilities to give birth and to secure their marriages. Thus, the timing of first births should be most important for the married woman. The results reveal that women who marry early have long first birth intervals as compared to women who delay marriages. Women who marry early might be postponing their first births because their bodies are not physiologically ready for pregnancies or they might have had pregnancies that resulted in still births.

The results reveal that women who engaged sexual intercourses at older ages are not at risk of early marriage or union these results agree with the results of the study conducted in Uganda (Ayiga 2013). Women who entered first sexual intercourse at young ages risk teenage pregnancy and early marriage which could lead them to dropping out of schools and remaining uneducated. The environments where there is no order can influence girls to engaging sexual intercourse early.

The results showed that women who have many children married while young. Although marrying while young is associated with low educational attainment, young women have the biological clock to their advantage and have time to have as many children as they could. However, it is not advisable to make many children if the parents lack the financial means to raise those children. It would add the financial burden to the government to pay money in the form of social grants to the children of parents who lack financial means to raise their children. Social grants are not enough to raise the children. Those children would find life tough while growing up and their school performance would be affected. The resources such as clinics, hospitals are schools are limited in the country due to population that increase fast. Parents should be cautious in terms of number of children they decide to have.

The results show that highly educated women postpone their first marriages as compared to women of lower education levels. These results are consisted with results of other research which report that highly educated women drastically postpone marriage (Hussien and Mustafa 2013). Education is a tool that improves the literacy of a human being. Uneducated people are illiterate and cannot make sound decisions. For example, as the results of this study revealed, they make many children without thinking about the limited availability of public resources (health facilities and schools) and where the money would come from to raise those children. Educated people can make informed decisions and make better priorities in life in general. They understand that sufficient money is required to build and maintain a family. For one to have a better life outside poverty a high level of education is required. Thus, they do not rush into marriage, but prioritise education and better paying jobs so that by the time they get married they will be in better financial positions to take care of their families.

The results revealed that rich women delay their marriages as compared to poor women. These results are not consistent with those of Malawi which report that middle and rich women marry early (Baruwa, Amoateng and Biney 2019). Rich women are likely to be women with high educational attainments because those women are likely to be doing good paying professional jobs. Rich women should have spent a lot of time on education and building their careers hence they marry late.

The results show that women who do not have access to health insurance coverage marry early. Only some of the employed people have access to health insurance coverage and they can include their family members in it. Women who have access to health insurance coverage are likely to be

those with high educational attainments and have well remunerating formal jobs. They postpone time of marriage due to their commitments to education and career building.

Conclusions and recommendations

The primary objective of the study is to determine the factors associated with AFMU among South African women. The findings are that the time from marriage to first birth, age at first sexual intercourse, total number of children ever born to the woman, education level, wealth index and health insurance coverage are associated with AFMU. Early marriage is a distraction to the future of girls and women. It leads to them dropping out of school and losing out on the opportunity to be highly educated. Education is very important to the woman and is key in the 21st century. Technology has progressed tremendously and continues to advance, and illiterate people cannot cope with the modern lifestyle due to the continuous advancements of technology. Uneducated people remain poor regardless of how hard they try to work hard and worsen their economic situation by having many children.

The government of South Africa should amend the Marriage Act, Act 25 of 1961 to not allow children of school going age to be married. To reduce the risk of early marriage the government should keep girls and young women at school for a long time for them to attain high education levels. This will reduce poverty and will help the government in achieving Goal 1 (which seeks to end poverty) and Goal 2 (which seeks to end hunger) of the 2030 Sustainable Development Goals (United Nations 2015). Also, fertility rates of the country will decline.

Acknowledgements

References

Ajayi, A.I. and Somefun, O.D. (2020). "Patterns and determinants of short and long birth intervals among women in selected sub-Saharan African countries." Medicine 99(19) doi: 10.1097/MD.0000000000020118.

Alazbih, N.M., Kaya, A.H., Mengistu, M.Y. and Gelaye, K.A. (2023). "Determinants of time to first marriage and birth intervals among women of child bearing age in Dabat Health and demographic surveillance system site, Northwest Ethiopia." PLoS One 18(2): e0281997. https://doi.org/10.1371/journal.pone.0281997.

Allen, P. Bennett, K. and Heritage, B. (2018). SPSS Statistics: A practical guide. South Melobourne: Cengage.

Al-Shuaibi, A. (2014). "The importance of education.". Accessed: https://www.researchgate.net/publication/260075970_The_Importance_of_Education#fullTextFileContent.

Ayiga, N. and Rampagane, V. (2013). "Determinants of age at first marriage in sub-Saharan Africa: A comparative study of Uganda and South Africa." Journal of social development in Africa 28(1): 9. Accessed: https://www.researchgate.net/publication/264052921_Determinants_of_age_at_first_marriage_in_sub-Saharan_Africa_A_comparative_study_of_Uganda_and_South_Africa_Introduction#fullTextFileContent.

Ariho, P. and Kabagenyi, A. (2020). "Age at first marriage, age at first sex, family size preferences, contraception and change in fertility among women in Uganda: analysis of the 2006–2016 period." BMC Women's Health 20: 1-13. https://doi.org/10.1186/s12905-020-0881-4.

Baruwa, O.J., Amoateng, A.Y. and Biney, E. (2020). "Socio-demographic changes in age at first marriage in Malawi: evidence from Malawi Demographic and Health Survey data, 1992–2016." Journal of Biosocial Science 52(6): 832-845. https://doi.org/10.1017/S0021932019000816.

Bloom, D.E. and Reddy, P.H. (1986). "Age patterns of women at marriage, cohabitation, and first birth in India." Demography: 509-523. https://doi.org/10.2307/2061348.

Department of Health, Statistics South Africa, South African Medical Research Council & ICF. (2019). "South Africa Demographic and Health Survey 2016 (SADHS)." Accessed: https://dhsprogram.com/pubs/pdf/FR337/FR337.pdf.

Dieppenaar, S. (2023). "Cohabiting couples – ensuring a (legally) supportive environment." Accessed: https://divorceattorneycapetown.co.za/cohabiting-couples/#:~:text=Contrary%20to%20what%20some%20people,partner%20in%20a%20cohabitative%20relationship.

Faraway, J.J. (2009). Linear models with R. London: Taylor & Francis.

Goni, A. and Rahman, M. (2012). "Age at first marriage in Bangladesh: socioeconomic differentials and determinants." Middle East Journal of Age and Ageing 9(3): 28-34. Accessed: https://platform.almanhal.com/Files/Articles/12940.

Götmark, F. and Andersson, M. (2020). "Human fertility in relation to education, economy, religion, contraception, and family planning programs." BMC Public Health 20(1): 1-17. https://doi.org/10.1186/s12889-020-8331-7.

Government of South Africa. (1961). Marriage Act 25 of 1961. Accessed: https://www.gov.za/sites/default/files/gcis_document/201505/act-25-1961.pdf.

Gurmu, E. and Etana, D. (2014). "Age at first marriage and first birth interval in Ethiopia: analysis of the roles of social and demographic factors." African Population Studies 28(3): 1332-1344. https://doi.org/10.11564/28-3-625.

Hussien, H.H and Mustafa, M. M. (2013). "Socio-Economic Factors of Age at First Marriage of Ethnic Groups Women in Sudan." Wulfenia Journal 20(5): 171-181. Accessed: https://www.researchgate.net/publication/343345945_Socio-Economic_Factors_of_Age_at_First_Marriage_of_Ethnic_Groups_Women_in_Sudan#fullTextFileContent.

Islam, M.A. and Rahman, A. (2020). "Age at first marriage and fertility in developing countries: A meta analytical view of 15 Demographic and Health Surveys." Clinical Epidemiology and Global Health 8(3): 775-779. https://doi.org/10.1016/j.cegh.2020.01.018.

Keswell, M. and Poswell, L. (2002). "How important is education for getting ahead in South Africa?." Accessed: https://open.uct.ac.za/server/api/core/bitstreams/75801f84-dfbc-4b95-b099-ed9f69c2fb8e/content.

Lwaki, K.G. (2012). "Regional variation in age at first marriage in Kenya [PhD dissertation]. Kenya: University of Nairobi." Accessed: http://erepository.uonbi.ac.ke/handle/11295/11392.

Lehrer, E.L. and Son, Y.J. (2017). "Women's age at first marriage and marital instability in the United States: Differences by race and ethnicity." Demographic Research 37: 229-250. doi: 10.4054/DemRes.2017.37.9.

Mafela, M.J. (2014). "Marriage Practices and Intercultural Communication: The Case of African Communities." Southern African Journal for Folklore Studies 24(1): 1-9. https://doi.org/10.25159/1016-8427/1668.

Mahdaviazad, H., Malekmakan, L., Sayadi, M. and Tadayon, T. (2019). "Trends in age at first marriage in women and related factors: A population-based study in southwestern Iran." Women & Health 59(2): 171-180. doi: 10.1080/03630242.2018.1449776.

Manning, W.D., Brown, S.L. and Payne, K.K. (2014). "Two decades of stability and change in age at first union formation." Journal of Marriage and Family 76(2): 247-260. doi: 10.1111/jomf.12090.

Modisaotsile, B.M. (2012). "The failing standard of basic education in South Africa." Policy Brief 72(1). Accessed: https://www.activateleadership.co.za/wp-content/uploads/2021/05/No.-72.The-Failing-Standard-of-Basic-Education-in-South-Africa1.pdf.

Montgomery D.C., Peck E.A. and Vining G.G. (2012). Introduction to Linear Regression Analysis. New Jersey: Wiley.

Moore, E. and Govender, R. (2013). "Marriage and cohabitation in South Africa: An enriching explanation?" Journal of Comparative Family Studies 44(5): 623-639. https://doi.org/10.3138/jcfs.44.5.623.

Moorosi, P. (2007). "Creating linkages between private and public: Challenges facing woman principals in South Africa." South African Journal of Education 27(3): 507-522. Accessed: https://www.sajournalofeducation.co.za/index.php/saje/article/view/114/37.

Moyo, N., Nanyangwe-Moyo, T., Qiao, X. and Wu, J. (2020). "Demystifying the Effects of Age at Marriage and Age at First Birth on Completed Family Size in Zambia." https://doi.org/10.20944/preprints202006.0081.v1.

Ranji, U.R., Wyn, R., Salganicoff, A. and Yu, H. (2007). "Role of health insurance coverage in women's access to prescription medicines." Women's Health Issues 17(6): 360-366. doi:10.1016/j.whi.2007.08.004.

Sindane, A.P. & Ojong, P.V. (2019). Perceptions of intercultural marriage: the lived experiences of South Africans and African foreigners in intercultural marriage [Masters dissertation]. University of KwaZulu-Natal, College of Humanities, School of Social Sciences. Accessed: https://researchspace.ukzn.ac.za/server/api/core/bitstreams/87a1d15a-69ef-42ea-87bb-fc4e3fa17043/content.

Statistics South Africa. (2022). "Marriage and divorces: 2021." Accessed: https://www.statssa.gov.za/publications/P0307/P03072021.pdf.

United Nations. (2015). "Resolution adopted by the General Assembly on 25 September 2015: Transforming our world: the 2030 agenda for sustainable development." Accessed: https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_RES_70_1_E.pdf.