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IMPACT OF AGE AT MARRIAGE ON FERTILITY: A COMPARATIVE ANALYSIS

Marriage is a universal institution in all over world which gives legitimacy to the married couple to live together and have sexual intercourse and give birth to children. Age at marriage is a major indicator which plays a significant role over fertility. Child marriage, teen's marriages are still found in India which could be one of the main reasons for high fertility rates. According to National Family Health Survey (NFHS), a large amount of the Indian women conceived pregnancy in the young age; they are contributing to conceive pregnancy and to produce high birth rate in India. This paper investigates the complex association between marriage age and marital fertility by examining the trend of age at first cohabitation with spouse and their exposure to mass media. Secondary data for the study purposes has been taken from NFHS-2. Data revealed that the women marrying late after or at the age of thirty have produced less number of births in comparison to those women who married at a very early age and produced high birth rate in their life span. This paper also discussed about women marrying at a younger age having shorter birth interval, efforts to promote late marriage could lead to low birth rate.

Our assumption is that fertility could be influenced by existing marriage system. In India, marriages are performed in many ways such as child marriage, monogamy; polygamy, which is very complex in nature. The major correlation between fertility and prevailing nuptiality patterns is well acknowledged. The effect of age at marriage on demographical variation is obvious from its insertion as one of the four proximate determinants of fertility (Bongaarts 1982). In all over the world, it is found that, where the age at marriage is high, fertility is comparatively observed to be low.

The process of demographic transition as an effect of age at marriage on fertility would be low and can be interpreted in following ways: 1. age-specific marital fertility rates (ASMFR) do not vary by marriage age, 2. non-marital fertility is just insignificant. In India, it is obvious that age at marriage has an inverse relationship with fertility and thus fertility is always low when

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the age at marriage is high. Fertility can also decline when women avoid having pregnancy or number of pregnancy. In totality, if marriage age increases fertility will be low or awareness towards family planning method can be the main cause of low fertility rates in India. It may also happen that marital fertility could be low when a couple wants to achieve high status in the society with minimum resources (Dumont). So there is a contradiction between age at marriage and fertility, it could be low among those women who marry late and it would be high among those who marry in a very young age.

In many developing societies, as Coale and Demeny (1992) suggested that the relationship between late marriage and low fertility is the result of higher use of contraception. In this present paper, the relationship between marriage age and fertility level has been established using secondary data taken from NFHS-2. The main focus has been given on the influence of marriage age on fertility and their related component such as role of age at marriage on family-building process as a pace of childbearing and parity progression fertility pattern. The marriages found in India since more than a decade, are mainly traditional marriage with traditional roots. As per the 2001 census, the per cent of never-married adults by the age of 40 was only about 3 percent for men and 1 percent for women (Census of India). As per the report, the marriage age has undergone a gradual increase as singulate mean age at marriage (SMAM) increased from 16.8 to 20.2 years for women between 1991 and 2011 (Census of India). The phenomenon happened not according to increase in marriage age which has not been widespread or dramatic but early marriages are also performed to be prevalent in some areas. Data provided by Census of India reveals that about one third of marriages that occurred between 1998 and 2011, the age of the bride was 17 or lower. In contrast, low age at marriage and fertility rates in India shows a declining trend which has declined from 3.39 in 1990-92 to 2.66 in 2003-05 (Sample Registration System). It also shows that this decline is varying from region to region, however, in the south states of India, the TFR ranged from 1.79 to 2.13 in 2003-05; north states of India, the TFR was above 3.0 in 2003-05. So, during these period, although knowledge towards family planning was very high but the prevalence rates of contraceptive method was only 56 per cent. According to a study done by International Institute for Population Sciences (IIPS), one family planning method is very common for Indian women is that of female sterilization which is as 37 per cent. Data from the above study shows that when we compare at marriage and its impact on fertility; it shows that those states have a high age at marriage have a low fertility level, although this relationship is not universal for all states in India. According to Census of India, Andhra Pradesh has a low age at marriage but the fertility is also declining rapidly. Socially it is important to understand that the factors which are responsible to promote late age at marriage played a great role such as kinship, marriage pattern, employment, migration and education etc. In India there are some states especially southern states where endogamy and kinship pattern factors played

a great role to decrease fertility However, in northern states of India, monogamy, exogamy and patriarchal authorities influenced to have early marriage which resulted in high fertility levels (Dyson and More 1983).

Aims and Objectives

The main objective of this paper is to establish a correlation between age at marriage and fertility in four major states of India. Thus, the specific objectives are:

(a) To know the level and trends of fertility among women according to their background characteristics.

(b) To study the relationship between age at marriage and fertility among women of India.

(c) To make a suggestions on the basis of FGD, how fertility can be avoided.

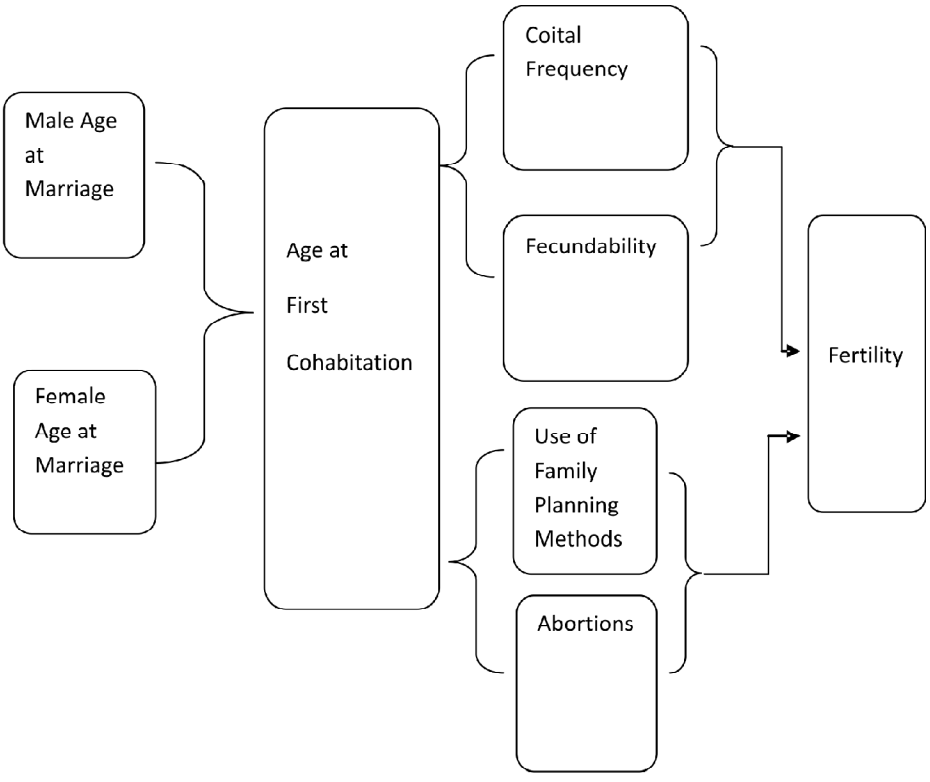

Figure 1: Relationship between Various Age and Fertility

Materials and Methods

This study is based on both primary and secondary data. Considering secondary data, data has been taken from National Family Health Survey (NFHS-2). This survey has been conducted by the Ministry of Health and Family Welfare, Government of India and compiled and analyzed by the International Institute for Population Sciences (IIPS), Mumbai. NFHS-2 covered all 29 states in India, which comprises more than 99 per cent of India's population. NFHS-2 is funded by United States Agency for International Development (USAID), Department for International Development (DFID), the Bill and Melinda Gates Foundation, United National Children's Fund (UNICEF), United Nation Funds for Population Activities (UNFPA), and Ministry of Health and Family Welfare (MOHFW). Macro International, USA, provided technical assistance at all stages of the NFHS-2 project. Primary data has been collected in the form of Focus Group Discussion (FGD). In FGD, heterogeneous groups in which both male and female doctors were interviewed. We have given a topic which is "how fertility can be avoided". They have given an equal opportunity to speak on this particular issue and the verbatim they have spoken saved in a multimedia hand set (handy cam) and then we have compiled all the verbatim and all verbatim which has been analyzed in the paper. Further, various statistical methods such as mean, correlation, graphs, diagram and chart is also been used to analyze the data.

Discussion and Conclusions

At per Indian Constitution the marriage age is specified under the Hindu Marriage Act 1954 and it is18 years for girls and 21 years for men. The marriage age has been suggested by the constitution of India but every religion has its own justification of marriage age and that is why child marriages, teenager's marriages are also performed in Indian society. However, many of them (boy and girls) marry before the completion of the age 18. According to biologist the mean age at effective marriage is the age at first cohabitation with their husband. If we talk about 18th century, the minimum age for marriage was 14 years for the boys and it was only 12 years for the girls. Other than India, most of the countries have their own legal age at marriage i.e. the median age at marriage is 28.7 for men and 26.8 for women. And in India, the median age at marriage is 26 for boys and 22.2 for girls (NFHS-2).

The data distributed in Table 1, shows percentage of ever married women according to their exact age for three southern state 'Andhra Pradesh, Karnataka, Tamilnadu' and one central state Uttar Pradesh (U.P). Data revealed that Uttar Pradesh is the state where almost 28 per cent girls performed their marriage at the age of 13 followed by Andhra Pradesh where 22 per cent girls performed marriage at the age of 13. It can also be seen that almost 49 per cent girls are marrying at the age of 15 years in these two states. Data reveals that median age at first marriage is high with 18.7 in

Tamil Nadu followed by Karnataka with 16.8. However, Uttar Pradesh and Andhra Pradesh are the states where median age at first marriage is only 15.1.

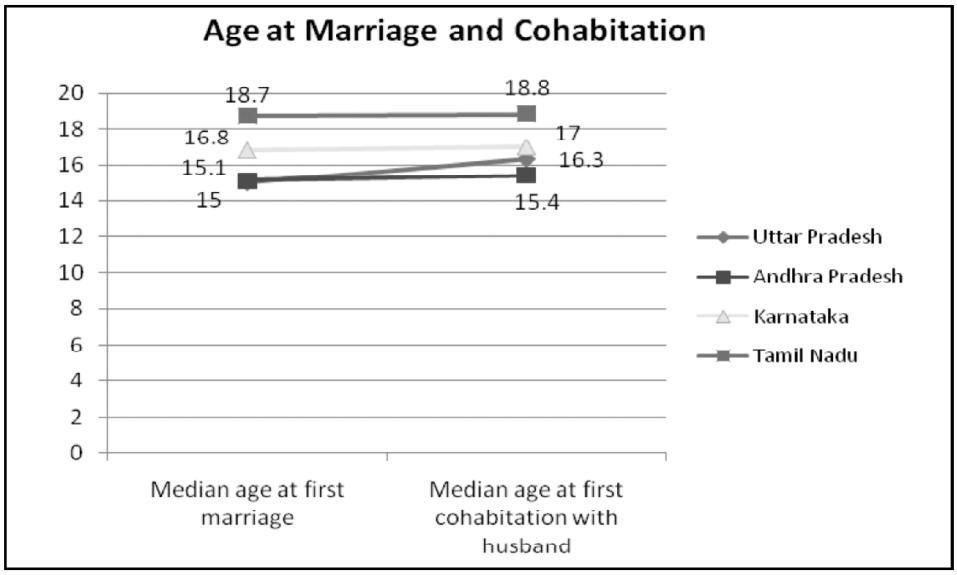

Figure 2: State wise fertility rate

The age at first cohabitation of women with their husband is also very high in Tamil Nadu where most of the women have sexual contact with their husband at the median age of 18.8, Karnataka has also performed good figure regarding age at first cohabitation of women with their husband i.e. 17.0. Whereas, Andhra Pradesh is the state where age at first sexual contact is very low i.e.15.4 and interestingly Uttar Pradesh is standing one step ahead than Andhra Pradesh.

Age Specific Fertility Rate (ASFR): In India, youth population is more pronounced, because most of the births occurred in younger age for women. Here ASFR can be interpreted as the number of births occurring during a specific year or particular period per 1,000 women of reproductive span classified in single-or five-year age groups.

The ASFR is calculated as: ASFRa = (Ba/Ea) x1000

Where:

Ba = number of births to women in age group a in a given year or reference period; and

Ea = number of person-years of exposure in age group a during the specified reference period.

Table 2 classified with specific fertility rate, which is distributed in five years of class interval of women's age on which births are occurred in her specific reproductive age. Here, the main important issue is that Uttar Pradesh provides high rate of total fertility rate (3.99) compared to the average women in India which produced 3.99 births during her reproductive span. However, Karnataka and Tamil Nadu performed minimum level of birth rate and they stand with 2.13 and 2.19 respectively.

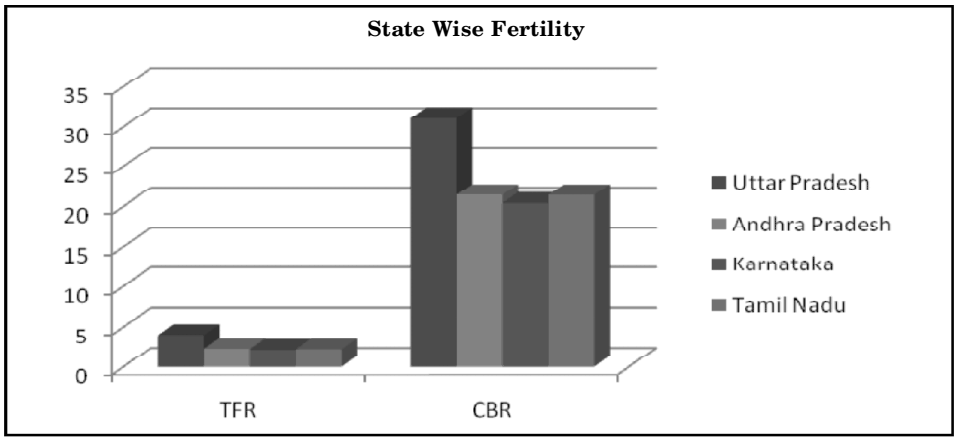

Figure 3: State wise fertility rate

The same trend is seen in the terms of crude birth rate (CBR) as Uttar Pradesh performed 31.1 birth per thousand women, whereas, all southern states are performing better result in terms of crude birth rate as they stand with 21.4 birth per thousand women. So far the data of southern states are better than Uttar Pradesh as per the demographic characteristic is concerned.

Exposure to Mass Media

It has been observed that fertility rates are going down in India when 2001 and 2011 census data are compared. The mass media played a significant role to raise consciousness about the family planning program on the population. The impact of mass media among women has been described in terms of watching television, listening to radio and reading newspaper. It is an obvious fact that mass media exposure found to be a significant differential of fertility even after controlling the effects of contraception, place of residence, and mother's educational and employment status. This implies, by taking necessary steps, mass media can be used much more adequately to reduce fertility rate of India.

Table 3 shows that Uttar Pradesh is far behind from southern states as exposures of mass media is concerned. Data revealed that only 12.6 per

cent women from Uttar Pradesh read news paper at least once in a week, while Tamil Nadu, Karnataka and Andhra Pradesh women are more encouraged to read news paper or magazines at least once a week. When we look towards trends of watching television and listening to radio by women in these states, data clearly shows that women from Uttar Pradesh are not much interested in watching television and listening to radio, whereas, women from Tamil Nadu is more curiosity in watching television and listening to radio. Similarly when we look forward to know about trends for visiting cinema hall, it is slightly different from news paper and TV, trends show that only 3.5 per cent of women are visiting cinema hall to watch movie in Uttar Pradesh. The percentage is high among Andhra Pradesh women watching movie in cinema hall and the trend is in Tamil Nadu and Karnataka that is 22.9 and 19.7 respectively.

		NEXPMED	TFR
NEXPMED	Pearson Correlation	1	.998**
	Sig. (2-tailed)		.002
	N	4	4
TFR	Pearson Correlation	.998**	1
	Sig. (2-tailed)	.002	
	N	4	4

Figure 4: Correlations between Not Exposure with mass media and total fertility rate

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

Data clearly indicates that level of not exposed respondents by any mass media is proportionally highly correlated with TFR. It is clearly indicated that proportion of respondents who belong to highest number of people who were not highly exposed with any mass media is strongly correlated with TFR which is high among them. Level of TFR has gone down as per the level of people who belongs to lowest proportion of not exposed with mass media. The correlation value is 0.998 which means that there is a strong correlation between not exposured through mass media with high fertility rate.

So, on the basis of data it is obvious that media also plays a great role to control over fertility.

Table 5 is an effort to establish a relation between low age at first cohabitation with husband as the main roots of high fertility. It seems that respondents who cohabitated with their husband in early age resulted in high fertility such as the women who have experienced first sexual intercourse with her partner at the age of 15 and 16 produced up to 3.99 live birth during

her reproductive span and at the same time the respondents who have first experience about sexual intercourse with her partner produced low level of fertility means less live birth in comparison to early age at marriage respondents.

	Matrix	AGECOH	TFR
AGECOH	Pearson Correlation	1	-.290
	Sig. (2-tailed)		.710
	N	4	4
TFR	Pearson Correlation	-.290	1
	Sig. (2-tailed)	.710	
	N	4	4

Figure 5: Correlations Matrix: Age at first cohabitation with her husband and Total Fertility Rate

A correlation analysis has also been done to establish relation between early ages at first cohabitation with the partner with Total Fertility Rate. An output comes from correlation analysis and the value is -.299 which means that there is negative correlation between age at first cohabitation with TFR. Data are inversely proportionate with Age at first cohabitation with TFR.

Conclusion

As said earlier the main objective of this paper is to establish relationship between age at marriage and fertility rate. According to the Data, the following results carved out from the analysis, Uttar Pradesh is the state where almost twenty eight per cent of girls performed their marriage at the age of 13 which is very early age as prescribed by Indian marriage age in Constitution and this performance does not exist in southern states. This could be one of the reasons that Uttar Pradesh is most likely to produce high fertility rate. Uttar Pradesh provides high rate of total fertility compared to average women in India who produced 3.99 live births during her reproductive span. However, Karnataka and Tamil Nadu performed minimum level of birth rate and they stand with 2.13 and 2.19 respectively.

It is obvious that the exposure with mass media played a significant role to produce fertility in India. The impact is positive over fertility rate and it varies from rural to urban area. If the exposure is low, fertility will be high even after controlling the effects of contraception, place of residence, and mother's educational and employment status. Fertility rate can be reduced through high exposure with mass media. Mass media also plays a significant role to use contraception, family planning methods to limit their family size. Uttar Pradesh is far behind from southern states as exposure of mass media

is concerned. Age at first cohabitation with partner also plays a great role towards fertility rate. It is observed that female respondents who cohabitated with their husbands in early age produced high birth. In Uttar Pradesh, a woman who has experienced first sexual contact with her partner in the very early age i.e. 15 or 16 produced more live birth i.e. 3.99 live birth per women during her reproductive span. At the same time the female respondents who have first cohabitation with her partner in late age produced low level of fertility. So far, data revealed that media plays a great role to control over fertility. Now, it is proved that there is a negative correlation between age at first marriage, cohabitation with total fertility rate.

Suggestions

On the basis of focus group discussion with the heterogeneous groups consisted of male and female doctors, shows that if the marriage performed in early age means couple's age at marriage is less or equal to 18 for girls and 21 for boys, there is a chance for high frequency of conceiving and it could be converted into high fertility. Same suggestion has also been given by Malthus and Dumont, they stated that population can be controlled through self-realization. If we consider natural fertility than it could be ideal in numbers and apt for the resources. The suggestion came after the analysis from FGD data says that the following ideas are important to control fertility:

Celibacy: This could be one of the main characteristics on which one can avoid fertility. Celibacy is the state of voluntarily being unmarried, sexually abstinent, or both, usually for religious reasons. It is often in association with the role of a religious official or devotee. In its narrow sense, the term celibacy is applied only to those for whom the unmarried state is the result of a sacred vow, act of renunciation, or religious conviction. In a wider sense, it is commonly understood to only mean abstinence from sexual activity.

Chastity: If you practice chastity, it means you are not having sex of any kind, perhaps because you are waiting until you get married, or may be because you believe sex is evil.

Chastity means "morally pure," and preserving your chastity means you are keeping your body pure and free from sexual relations, at least for now. Some religious figures take a vow of chastity so they can focus their thoughts on their faith, while many young people save their chastity for when they fall in love.

Virginity: A virgin is someone who has never had sex. Virginity is the state of a person who has never engaged in sexual intercourse. There are cultural and religious traditions which place special value and significance on this state, predominantly towards unmarried females, associated with notions of personal purity, honor and worth.

Maidenhood: The time during which a woman is a maiden or a virgin.

Abstinence: Abstinence is a self-enforced restraint from indulging in bodily activities that are widely experienced as giving pleasure. Most frequently, the term refers to sexual abstinence. Abstinence may arise from an ascetic element, present in most faiths, or from a subjective need for spiritual discipline. In its religious context, abstinence is meant to elevate the believer beyond the normal life of desire, to a chosen ideal, by following a path of renunciation.

Self-denial: Self-denial (also called self-abnegation and self-sacrifice) refers to altruistic abstinence – the willingness to forgo personal pleasures or undergo personal trials in the pursuit of the increased good of another.

Self-restraint: The ability to control your feelings and stop yourself from doing things that are not right or sensible.

Abnegation: Abnegation is one of the five factions in the world of Divergent. People from Abnegation are selfless and they forget themselves for the sake of others.

Asceticism: Asceticism is a lifestyle characterized by abstinence from worldly pleasures, often for the purpose of pursuing spiritual goals. Ascetics may withdraw from the world for their practices or continue to be part of their society, but typically adopt a frugal lifestyle, characterized by the renunciation of material possessions and physical pleasures, and time spent fasting while concentrating on the practice of religion or reflection upon spiritual matters. Asceticism is classified into two types. "Natural asceticism" consists of a lifestyle where material aspects of life are reduced to utmost simplicity and a minimum but without maiming the body or harsher austerities that make the body suffer, while "unnatural asceticism" is defined as a practice that involves body mortification and self-infliction of pain such as by sleeping on a bed of nails.

In this manner the suggestions may look ideal but are practiced everywhere in the world in general and India in particular, In India, particularly in Hinduism celibacy, abstinence and asceticism among other things are intermittently practiced during rituals. However, even today when people retire from work they lead the life of a renouncer staying in the household.

Table 1
Age at marriage of women in major states of India

State	percentage of ever married women by exact age							
	13	15	18	20	22	25	Median age at first marriage	Median age at first cohabitation with husband
Uttar Pradesh	27.7	49.7	79.6	89.9	94.7	97.3	15.0	16.3
Andhra Pradesh	22.1	48.9	79.8	89.8	94.5	96.8	15.1	15.4
Karnataka	9.1	27.5	60.6	76.3	84.6	91.7	16.8	17.0
Tamil Nadu	2.6	11.6	41.6	64.7	79.6	90.3	18.7	18.8

Source: National Family Health Survey-2

Table 2
Fertility by State

State	age specific fertility rate								
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	TFR	CBR
Uttar Pradesh	0.120	0.256	0.208	0.127	0.064	0.018	0.006	3.99	31.1
Andhra Pradesh	0.132	0.186	0.087	0.029	0.012	0.003	0.000	2.25	21.4
Karnataka	0.112	0.172	0.09	0.037	0.009	0.003	0.001	2.13	20.4
Tamil Nadu	0.083	0.189	0.121	0.032	0.010	0.003	0.000	2.19	21.4

Source: National Family Health Survey-2

Table 3
Exposure of mass media among women

State	Percentage of women whose exposed with mass media				
	Reads a news paper or magazines at least once a week	Watches TV at least once a week	Listen to the radio at least once a week	Visit the cinema/ theater at least once a month	Not regularly exposed to any media
Uttar Pradesh	12.6	32.1	29.5	3.5	54.7
Andhra Pradesh	19.5	58.2	39.2	35.1	23.7
Karnataka	27.9	58.4	60.9	19.7	21.4
Tamil Nadu	23.1	63	51.7	21.9	20.3

Source: National Family Health Survey-2

Table 4
Cross tabulation with Not Exposed by Mass Media with TFR

Not Exposed with Mass Media	TFR				
	2.13	2.19	2.25	3.99	Total
20.30	0	1	0	0	1
21.40	1	0	0	0	1
23.70	0	0	1	0	1
54.70	0	0	0	1	1
Total	1	1	1	1	4

Table 5
Correlation Between Age at First Cohabitation with Husband and TFR

Age at First Cohabitation with Husband	TFR				
	2.13	2.19	2.25	3.99	Total
15.40	0	0	1	0	1
16.30	0	0	0	1	1
17.00	1	0	0	0	1
18.80	0	1	0	0	1
Total	1	1	1	1	4

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