

## SHORT ARTICLE

**Assessment of knowledge and perception regarding male sterilization (Non-Scalpel Vasectomy) among community health workers in Jharkhand, India**

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**Abstract**

**Introduction:** In India, community health workers are the main source of information for family planning services and male population want to interact and discuss with them to clear their doubts about male oriented family planning methods. **Objective:** The objective of the study was to assess the knowledge and perception of community health workers regarding the modern male sterilization method. **Methodology:** This was a cross-sectional study conducted in Simdega district of Jharkhand. The target population was the community health workers and randomly selected from four randomly selected from blocks out of total seven in the district. A self-administered quantitative questionnaire was used for data collection comprising questions related to knowledge and perception of community health workers about modern male sterilization method. **Results:** 43% CHWs didn't know that this method is different from traditional male sterilization method and around 62% thought man's sexual performance get affected after NSV and 77% did not have any idea about time required to resume normal work. **Conclusions:** The poor knowledge and wrong perception could be one of the main reasons for poor male participation in family planning process in India.

**Key Words**

Community Health Workers; Knowledge; Perception; Male Sterilization; NSV

**Introduction**

Family planning allows people to attain desired number of children, determine the spacing between pregnancies [1] and their sexual and reproductive health [2]. At present a basket of different family planning methods is available for the target population from which they can choose most suitable methods according to their need. And to make an informed choice, knowledge of all methods becomes essential for target population. In countries like India, where trained health care professional are inadequate in quantity as well as in quality [3], it becomes very difficult to provide complete and right information about all available family planning methods [4]. Although mass media is the main

source of information for family planning methods in the community [5, 6] but people expressed their interest in receiving information through knowledgeable sources with whom people can interact and discuss about family planning methods in detail [7].

In this scenario, community health workers play an important role in disseminating information about health programs and available health services. In family planning program, community health workers are responsible for community mobilization by means of counselling, providing information, discussing communities' issues and clearing their doubts about different family planning methods. Despite of huge number of community health workers, it is found that that the target population

does not have informed choice as a result family planning is perceived to be the responsibility of females only in Indian community. Previous studies conducted in different parts of the country showed that although male participation in family planning is low but they are interested in acquiring information on family planning methods but in the absence of complete and right information, they are not able to make an informed decision [7, 8, 9]. This results in fall of acceptance level (from 1.9% to 1%) of male sterilization/non scalpel vasectomy (NSV) [10].

This raises a question on the knowledge of community health worker that why they are not able to mobilize male population for accepting non-scalpel vasectomy which is safer than female sterilization and increase the male participation in the family planning process in India.

### Aims & Objectives

To assess the knowledge and perception of community health workers regarding the modern male sterilization method or NSV.

### Material and Methods

**Study setting:** This study was conducted in the State of Jharkhand which has a population of 32.9 million [11] majority of which comprises of various tribes. The unmet need of family planning in Jharkhand is 21.3% which is higher than the national unmet need (14.4%) [12]. Total fertility rate of the state is also higher i.e. 3.3 than the national (2.7) and contraceptive prevalence rate of the state (36) is much lower than the national (56) [13]. The family planning indicators of the state are poorer than the country as compared in [table 1](#)

The study setting was Simdega district, in southern part of Jharkhand. Selection of the district for the study was done purposively as 70.2% of the total district population was scheduled tribes, which was highest in the whole state. The total fertility rate was higher among the disadvantage groups in Jharkhand (3.8 in Scheduled Tribes, 3.1 in Schedule Castes and 3.3 in other backward classes) [13]. Majority of the tribal population belonged to Christian community, rest were Muslim (3%), Schedule caste (8%) and Hindus [11]. The study was an exploration into the contraceptive practices among the population, aimed at understanding knowledge, belief and perception of community health worker about male sterilization in tribal areas and help in identifying gaps for low acceptance of male sterilization in tribal population.

**Study method:** This was a cross sectional study conducted among community health workers in Jharkhand. There were a total 726 community health workers in seven blocks of the district. For the study purpose, four blocks namely Simdega, Thethaitangar, Kolebira and Kurdeg were randomly selected from total seven blocks. The number of community health workers in those four blocks were 137, 121, 102 and 98 respectively. To calculate the sample size based on the estimation that 50% of community health workers might have enough knowledge on non-scalpel vasectomy, precision was set at 10% for P value 0.05% and 80% power of the study. Estimated sample size was 196 community health workers therefore a total of 200 community health workers were randomly selected from the selected blocks as representative of the district. A self-administered quantitative questionnaire comprising of 10 closed ended questions was developed and was used for the data collection procedure. The research tool was first translated in local language (Hindi) then pretested and modified on the basis of findings and feedback. Data was collected by trained researcher, entered and analysed in Microsoft excel.

### Results

It was found that the average age of the study group was 29.5 years. About 58.5% community health workers received education up to secondary level, 19% up to higher secondary, 17% up to middle level, 3.5% up to graduate and 2% received education up to primary level ([table 2](#)).

The results ([table 3](#)) showed that the knowledge of community health workers about the eligibility of the person for sterilization is good, 77.5% knew that sterilization is for those couples who don't want more children. While 3% still believed that sterilization is for newly married couple, 12.5% believed that it is for couples who want more children and 7% believed that male above 60 years of age are eligible for male sterilization. Knowledge about sterilization procedure was not satisfactory as 45.5 % community health workers believed that NSV is not a stitch free procedure (application of 1 stitch by 21%, 2 stitch by 11.5% and 3 stitch by 13%), only 54.5% knew that NSV is a stitch free procedure. 85.5% community health workers knew that the use of local anaesthesia is the actual reason for painless procedure.

Majority of the community health workers (81%) had correct knowledge about the duration of the operation which is ten minutes and 74% knew that the total time required to spend in the facility for the sterilization procedure is approximately one hour while the other said the time required for the procedure is six hour (18.5%), one day (5%) and two days (2.5%).

When asked about the precautionary measures regarding use of contraceptives after male sterilization, it was found that the community health workers' knowledge was not satisfactory. Only 29.5% knew that the actual duration of post-operative contraceptive use is at least three months. Whereas 42% stated that use of contraceptives for one month is enough and according to 24.5% community health workers, use of post-operative contraceptives is mandatory for six months.

Majority of the community health workers (82%) perceived that after sterilization physical strength remains the same while others believed that the person loses the ability to do heavy work (10%), person become weak (6%) and fall sick frequently (2%) as a result of after-effects of sterilization. 61.7% community health workers have perceived that after sterilization the person either loses erection (27%) or loses strength to ejaculate (34.5%), and only 38.5% reported that person can ejaculate normally and sexual performance does not hamper even after sterilization. 77% community health workers believed that there is no change in the sexual desire (libido) while 23% believed that there is lack of libido after sterilization operation. When asked about the time required to resume to normal work, there were vague responses, 31% answered that at least one month is required to resume to normal work while 23% said minimum time required to resume to normal work is two days, 6.5% said two weeks and 39.5% said one week is enough to resume back to normal activities.

## Discussion

India is the first country in the world which took initiative to control the population explosion in 1952 and launched National Family Planning Program with the objective of reducing birth rate to the extent necessary to stabilize the population at a level consistent with requirement of national economy [14] but now there is paradigm shift in the objective from reducing birth rate to improvement in maternal and child health. Also, National Population Policy

promotes family planning on voluntary basis and informed choice with full community participants [15] and to provide an informed choice, Government of India under the flagship of NRHM built a huge taskforce of nearly 8.6 lacs community health workers. But in the current study, it was found that the community health workers are not knowledgeable enough to transfer family planning related information to target population in an effective manner. Earlier studies reported that the community health workers are the key source of information for the community after mass media and people want to interact with them to clear their doubts which enables them to make an informed choices [6, 7]. This study showed that the knowledge of community health workers particularly about NSV procedure is poor; nearly half of them thought that NSV is not a stitch free technique and with this kind of wrong information, they cannot mobilize and motivate the community for NSV. Apart from this, more than 70% of community health workers did not know the exact duration of using post-operative contraceptive methods as precaution and in the absence of precautionary measures they conceive a baby as a result of which community have this disbelief that NSV as an ineffective technique. Although the chances of failure are very low but such incidences can make the community hesitant towards acceptance for NSV.

Sexual performance is the main concern for men and is a symbol of manhood in India so the fear of losing machismo is the reason for low acceptance of NSV. And this study reveals that nearly 62% community health workers themselves thought that the male sexual performance deteriorates after sterilization. Almost 35% perceived that after sterilization, male cannot ejaculate and 27% thought man loses erection. Therefore community health workers themselves having these perceptions cannot change the perception of a common man who knows nothing about the family planning methods.

The results also highlighted the fact that 39.5% of the respondents believed that after NSV, a person need 7 days of rest before resuming his regular work and 31% believed that he needs one month. Whereas, for regular work, not involving heavy weight lifting etc. rest of 2 days is enough. The respondent i.e. community health workers mostly deal with the working class population in this tribal belt of Jharkhand, hence time by when a person can resume back to normal post sterilization, is a determining

question for the men folk for their decision making regarding NSV. The community health workers' cloudy knowledge on post-operative rest and care are obviously giving out wrong information and this in turn, might have discouraged few sections of men who are willing for NSV, but are concerned with losing work and daily wages for a longer time. In the working class population, maximum number of days for rest required after a procedure is a major deterrent for undergoing the procedure, as the daily income is compromised. This concern is further accentuated by misconceptions regarding reduction of physical strength after NSV. A community health worker, who himself is less informed, cannot motivate the community on undergoing NSV. Rather, he might inculcate fear, ambiguity and disinterest amongst the community.

In India, where majority of the community health workers being female in form of ASHA, male population become dependent on their partners for information related to family planning because females have better and direct access to information through community health workers. And in the absence of right information about male sterilization methods among community health workers, females become easy targets for them to motivate to undergo family planning procedures and this could be one of the reasons for poor male participation in the family planning process.

### Conclusion

This study assessed the effectiveness of community health workers in community mobilization particularly for modern male sterilization method and it is found that the knowledge and perception is not satisfactory. Therefore lack of knowledge among community health workers regarding male sterilization methods ultimately limits their ability to transfer correct information to the community resulting in poor demand for health services from community.

### Recommendation

1. To ensure increased family planning uptake, strategies should be put in place that promote improved awareness about the available family planning services, their possible side effects and benefits among the general population.
2. Re-orientation of health providers in family planning services is paramount to improve their knowledge and skills as well as motivation for quality and effective service provision, especially

given the fact that health facilities and private clinics serve most of the clients' family planning needs/methods.

3. Male involvement in reproductive health services is crucial; thus strategies geared towards mobilization of men to participate and communicate with their spouses regarding family planning issues should be considered by programme planners.
4. Policymakers and program planners need to understand local concepts, experiment with multiple information channels and design strategies for reaching men involving face-to-face dissemination of information by knowledgeable persons, training male health workers to discuss family planning with male groups, and strengthening access to and availability of reversible methods, so that dependence on female sterilization is reduced.

### Relevance of the study

The current study is one of its own kind as this study focuses on the community health workers whereas in majority of public health studies either healthcare service providers or the consumers remain the target population while it is evident that community health workers play an important role in disseminating the health related information. And with the example of male sterilization, this study reveals that community health workers have limited knowledge and misconceptions about health issues.

### Authors Contribution

All authors have equally contributed in the study conceptualization, designing, literature review, analysis and final approval of the manuscript.

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**Tables**

**TABLE 1 COMPARISON OF FAMILY PLANNING INDICATORS BETWEEN STATE AND THE COUNTRY**

Family planning Indicators	Jharkhand	India
Any method (%)	34.9	54.0
Any modern method (%)	30.8	47.1
Female sterilization (%)	24.6	34.0
Male sterilization (%)	0.4	1.0
IUD (%)	0.5	1.9
Pills (%)	3.3	4.2
Condom (%)	2.0	5.9

**TABLE 2 BACKGROUND OF SAMPLE POPULATION**

Qualification	Frequency (%)
Up to Primary	4 (2%)
Primary to Middle	34 (17%)
Middle to Secondary	117 (58.5%)
Secondary to Higher secondary	38 (19%)
Higher secondary to graduate	7 (3.5%)
Total	200

**TABLE 3 RESPONSES OF COMMUNITY HEALTH WORKERS REGARDING MODERN MALE STERILIZATION**

Knowledge perception	Response (%)
Knowledge about eligibility criteria	
Newly married couples	3
Male above 60 years	7
Couples who don't want more children	77.5
Couples who want more children	12.5
Knowledge about procedure	
One stitch is required	21
Two stitch	11.5
Three stitch	13
It is a stitch free technique	54.5
Knowledge about reason for painless procedure	

<b>Small incision</b>	11
<b>Few stitches</b>	3.5
<b>Local anaesthesia</b>	85.5
<b>Knowledge about duration of operation</b>	
<b>At least two hour</b>	12.5
<b>Ten minutes</b>	81
<b>Half an hour</b>	6.5
<b>Knowledge about time spent in facility for operation</b>	
<b>One hour</b>	74
<b>Six hour</b>	18.5
<b>One day</b>	5
<b>Two day</b>	2.5
<b>Knowledge about use of post-operative contraceptive methods</b>	
<b>For 1 month</b>	42
<b>For 2 month</b>	4
<b>For 3 months</b>	29.5
<b>For six months</b>	24.5
<b>Perception about change in strength after operation</b>	
<b>Become weak</b>	6
<b>Unable to do heavy work</b>	10
<b>No change in strength</b>	82
<b>Fall sick frequently</b>	2
<b>Perception about sexual performance after operation</b>	
<b>Ejaculate normally</b>	38.5
<b>Cannot ejaculate</b>	34.5
<b>Loose erecting</b>	27
<b>Perception about libido</b>	
<b>Loose sexual desire</b>	7
<b>Loose sexual power</b>	16
<b>No change</b>	77
<b>Perception about time requirement to resume to normal work</b>	
<b>Two days</b>	23
<b>Seven days</b>	39.5
<b>Two Weeks</b>	6.5
<b>One month</b>	31