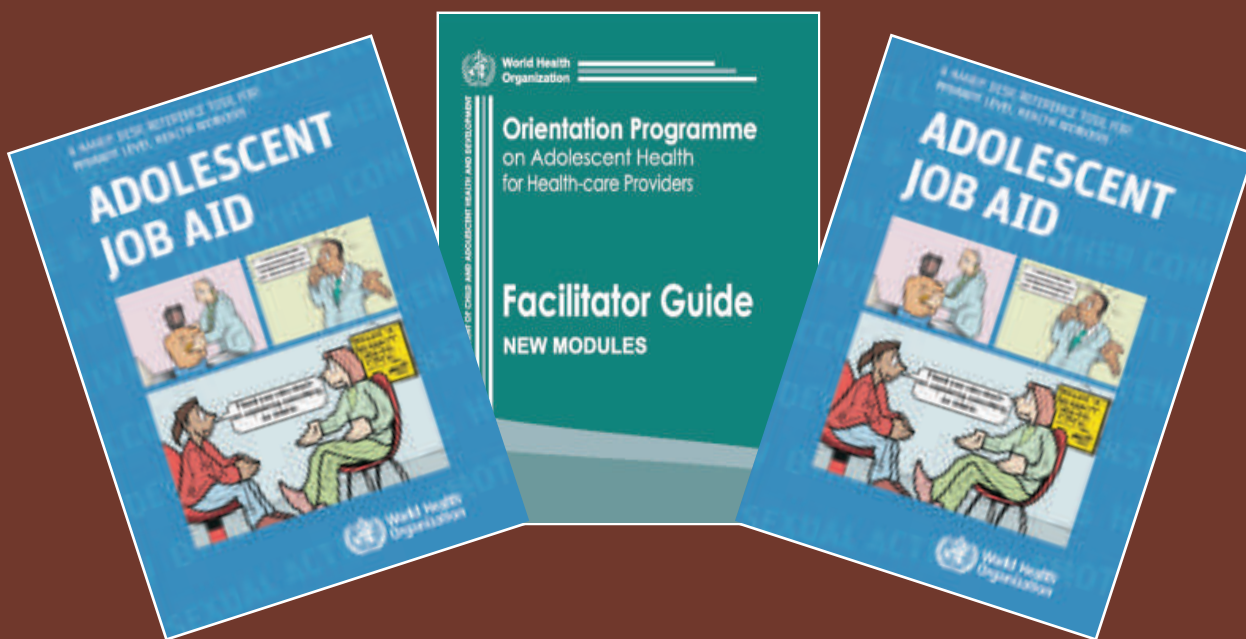


A Study to Evaluate the Effectiveness of WHO Tools – Orientation Programme on Adolescent Health for Health Care Providers and Adolescent Job Aid in India



**A Study to Evaluate the Effectiveness of
WHO Tools – Orientation Programme on Adolescent
Health for Health Care Providers and Adolescent
Job Aid – in improving the quality of health
services provided by health workers to their female
adolescent clients in India**

**A report of a study carried out by the International Centre for
Research on Women and the Foundation for Research on Health
Systems, with the financial and technical support of WHO**

Contributing Authors

ICRW

Dr. Priya Nanda Dr. Anurag Mishra Ms. Sushmita Mukherjee

FRHS

Dr. Alka Barua

WHO

Dr. Garrett Livingston Mehl Dr. Chandra-Mouli Venkatraman

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FOREWORD

Adolescence, the second decade of life, is a period in which an individual undergoes major physical and psychological changes. Alongside, there are enormous changes in the person's social interactions and relationships. It is a phase in an individual's life rather than a fixed time period; a phase in which an individual is no longer a child but is not yet an adult.

Adolescence is a time of opportunity, but also of risk. It presents a window of opportunity because actions could be taken during this period to set the stage for healthy adulthood and reduce the likelihood of problems in future years. At the same time, it is a period of risk, when health problems which have serious immediate consequences can and do occur; a period when problem behaviors which could have serious adverse effects on health in the future are initiated.

One in five individuals in the world today is an adolescent. This is the largest number of adolescents in history. The global population of adolescents is estimated to continue to increase and to peak about thirty years from now. Four out of five adolescents live in developing countries, where they constitute up to 30percent of the population.

Many adolescents make the transition to adulthood in good health. Unfortunately, many others do not do so. Firstly an estimated 1.42 million adolescents die every year (the vast majority of them are in developing countries). Road traffic injuries are the principal cause of mortality in male adolescents, and maternal causes are the principal cause in female adolescents. Secondly, mortality points to the tip of the proverbial iceberg, in painting a picture of the health of adolescents. Tens of millions of adolescents experience health problems which hinder their ability to learn and to work as well as they might have, and to grow and develop to their full potential. These include reproductive health problems such as the fistulae resulting from obstructed labour, depression, anaemia and both under-nutrition and obesity. Thirdly, hundreds of millions of adolescents adopt unhealthy habits that will lead to disease and death during their adolescent years and more so later in life. Unprotected sex can result in pregnancies and sexually transmitted infections. Even moderate alcohol use can result in sexual risk-taking, injuries from interpersonal violence and drunken driving. Tobacco use, lack of physical activity, and diets rich in energy and fats, can lead to cancer and health disease in adulthood. For example, of the estimated 150 million adolescents that smoke today, an estimated 75 million will die prematurely.

What do adolescents need to grow and develop in good health? They need information and skills to enable them to take the actions needed to protect and safeguard their health. They need a safe and supportive environment to live, play and study or work in because they are not fully aware of the risks in their environment, nor are they always able to protect themselves from these risks. And they need health and counselling services that contribute to preventing health problems, and respond to them if such problems occur.

Many individuals and institutions need to contribute to the health and development of adolescents. It is useful to think of them in concentric circles of contact and influence.

- At the centre is the adolescent himself or herself. Parents, siblings and other family members are in immediate contact with the adolescent and constitute the first circle.

- ❑ The second circle includes people in regular contact with them such as their own friends, family friends, teachers, sports coaches, health workers and religious leaders.
- ❑ The third circle includes musicians, film stars and sports figures who have a tremendous influence on them from afar.
- ❑ Finally in the fourth circle, politicians, journalists and bureaucrats (within the government and private sectors) affect their lives in small and big ways, through their words and deeds.

Where do health workers - doctors and nurses, as well as others such as psychologists - fit in within this scheme of things? They have two complementary roles to play - firstly as service providers and secondly as community change agents. As service providers, they need to help adolescents who are well, to stay well and develop into healthy adults (through the provision of information, advice and preventive health services), and to help those adolescents who are ill, to get back to good health (by diagnosing health problems, detecting problem behaviors and managing them or referring them elsewhere for help). Health workers have another important role to play - that of change agents in their communities. They have credibility and influence in their communities and need to use this to help influential community members take adolescent health seriously. They could make an invaluable contribution in helping educators, religious leaders, political leaders and others understand the needs of adolescents, and the importance of working together to meet these needs.

Unfortunately, studies carried out in different parts of the world indicate that health workers do not play either of these roles very well. Health workers in many places do not relate to their adolescent patients with respect and empathy, and do not respond to their needs and problems. This is particularly so in relation to 'sensitive' areas such as sexual health and mental health. The vast majority do not help other community members understand, empathize and respond to the needs of adolescents.

We in WHO have taken up the challenge to strengthen the abilities of health workers to respond to adolescents both effectively and with sensitivity. Our intended target group comprises all trained and registered health workers who provide preventive, promotive and curative health services to the population - children, adolescents and adults. We want to build the abilities of both generalists and specialists such as paediatricians and gynaecologists. We do not intend to create a cadre of adolescent health or adolescent medicine specialists.

We aim to build the capacities of health workers to play the twin roles of service provider and change agent. Our vision is for every health worker to be clear about:

- ❑ What they need to know and do differently if the patient who walks into their consultation room is 16, not 6 or 36;
- ❑ What they could do outside their health facilities to help other influential people in their communities understand and respond to the needs of adolescents.

We aim to build the competencies - the clinical and interpersonal competencies - necessary for providing adolescents the services they need, and the competencies needed to stimulate dialogue, reflection and behavioural change in their communities. We also aim to build positive attitudes and values.

We developed an Orientation Programme on Adolescent Health (OP) in line with research evidence on building knowledge, skills and positive attitudes in a workshop setting, and a complementary Adolescent Job Aid (AJA) which is intended to contribute to ensuring that these gains in the workshop setting are applied in the work place setting.

After an extended development process, the OP was finalized in 2000. Since then it has been translated into many languages and adapted for use in many countries, and is widely used. Workshop evaluations - that we and others have carried out - have pointed out that the OP helped participants understand what is special about adolescence and adolescents, motivated them to understand and respond to their adolescent patients with empathy and sensitivity, and pointed them to what they should be doing when dealing with adolescents with selected conditions (e.g., STI). However, it did not precisely say what they should do in a clinical consultation.

To respond to this often-expressed need, we developed the AJA in 2010. The AJA is a handy desk reference which provides step-by-step guidance on dealing with adolescent patients when they present a problem or a concern. The core of the AJA contains 25 algorithms on common problems and concerns that adolescents present, either by themselves or accompanied by a parent or guardian. Each algorithm starts with presenting a complaint or question. Each algorithm then provides precise guidance on what to ask for, what to look/listen/feel for, how to classify and manage different conditions, and in addition what information to provide and how to respond to questions that are commonly asked. The AJA is being translated, adapted and applied widely, even more rapidly than the OP was.

With many countries using our tools and with many others setting out to do so, we decided that we had a responsibility to have their effectiveness in improving the competencies and attitudes of health workers evaluated, and to have this done independently. We decided to engage the International Center for Research on Women (ICRW) to carry out this evaluation because of their expertise in intervention research in health and social issues in developing countries, and their expertise in adolescent health. The fact that the ICRW works with indigenous organizations around the world to do their research was an added advantage, in our view.

A strong team in ICRW's New Delhi office and a strong indigenous partner, The Foundation for Research in Health Systems, enabled us to carry out this research in India, a country which has served as a valuable site for many areas of work.

We are heartened by the results of the study carried out in the state of Gujarat in India, which show that WHO's tools improve the knowledge and understanding of health workers, their attitudes, and more importantly their practices - both in the way they provide clinical services and in dealing with adolescents in a friendly manner. Given this, it is not surprising that their adolescent patients reported that their experiences of care were positive, that they intended to follow the advice that they received and to return for review. It is worth noting that the health workers who were the subject of this study were typical of those that the WHO tools are intended for, and that they were oriented in workshops exactly like those being conducted elsewhere in India and around the world.

The findings of the study provide credible independent validation of the value of WHO's tools

in improving the abilities of health workers to respond to adolescents effectively and with sensitivity. They provide us with a solid basis to promote these tools with renewed energy. (Alongside this, we will work to repeat the study in other settings and in other contexts, e.g., in the provision of curative services to adolescent males with STI).

The study also pointed to challenges that health workers face in using the WHO tools, especially the AJA (for e.g., some said that referring to it in front of their patients may convey the message that they did not know their work). We will take these points into serious consideration as we support the application of the tools in India and elsewhere.

Dr V. Chandra-Mouli

Scientist

Department of Maternal Newborn and Adolescent Health and Development

World Health Organization

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LIST OF ACRONYMS

| | |
|-------|---|
| ADH | Adolescent Development and Health |
| AFHS | Adolescent Friendly Health Services |
| AJA | Adolescent Job Aid |
| ANC | Antenatal Care |
| ANM | Auxiliary Nurse Midwife |
| ARO | Asia Regional Office |
| AYUSH | Ayurvedic, Unani, Siddha and Homeopathy |
| CHC | Community Health Centre |
| EDD | Expected Date of Delivery |
| FRHS | Foundation for Research in Health Systems |
| HEADS | Home, Education/Eating/Exercise, Ambition/Activities, Drug use, Sexuality/ Suicide |
| ICRW | International Center for Research on Women |
| IEC | Information, Education and Communication |
| IFA | Iron and Folic Acid |
| KA | Knowledge and Attitude |
| LHV | Lady Health Visitor |
| LMP | Last Menstrual Period |
| MBBS | Bachelor of Medicine and Bachelor of Surgery |
| MO | Medical Officer |
| NFHS | National Family Health Survey |
| OP | Orientation Programme on Adolescent Health for Health Care Providers |
| OPD | Out Patient Department |
| PHC | Primary Health Centre |
| RH | Reproductive Health |
| RTI | Reproductive Tract Infections |
| SEARO | South-East Asia Regional Office |
| STI | Sexually Transmitted Infections |
| WHO | World Health Organization |

EXECUTIVE SUMMARY

The World Health Organization's Department of Child and Adolescent Health and Development team has developed a set of tools called the Orientation Programme (OP) on Adolescent Health for Health Care Providers and the Adolescent Job Aid (AJA) to build the capacity of health workers globally to respond to their adolescent and young clients effectively and with sensitivity.

The overall goal of this study was to evaluate whether the OP and AJA improve the quality of service provision and experiences of care, for selected reproductive health services, to young female clients aged 15-25 years. The study was carried out in two districts in the state of Gujarat in India, to test the feasibility and effectiveness of these tools in improving the practices of health workers in Primary Health Centres (PHCs) when providing care to young female clients.

The intervention consisted of a five-day training in the use of the OP and the AJA for all Medical Officers (MOs) posted at PHCs. The evaluation followed a quasi-experimental research design with baseline and endline surveys of health facilities, observations of MO-client consultations, interviews with providers and exit interviews with young female clients. The International Center for Research on Women (ICRW) conducted the evaluation in partnership with the Foundation for Research on Health Systems (FRHS).

Specifically, the study evaluated the change in MOs' practices in relation to three selected female adolescent reproductive health algorithms: management of vaginal discharge, management of menstrual problems, and antenatal care.

METHODS

The study developed and used structured and semi-structured tools for data collection. In addition, in-depth interviews were conducted at endline with a subsample of MOs (using a semi-structured interview guide) to identify the successes and ground-level challenges in the use of the AJA to counsel and treat young female clients who presented any of these three conditions.

The sample covered during the baseline and endline surveys in both the intervention and comparison districts included interviews with 28 MOs in each district, observations from 83-123 client-provider interactions, and exit interviews with 140-230 clients.

At baseline, the study assessed the facilities in both districts in terms of availability and training of staff, physical infrastructure, equipment and supplies, service protocols and guidelines, services provided and information systems. This helped establish uniformity of available infrastructure in both districts at baseline.

Study tools were specifically developed to reflect the aims and objectives of the OP and the AJA. Where possible, questions from previously validated tools were used to develop tools for this study. Sufficient time was spent on pre-testing the instrument components. All tools were translated into Gujarati and back-translated into English. They were pilot-tested in a

non-study district prior to use. Interviewers and observers were thoroughly trained in ethical issues of research, as well as on the study tools, design and objectives.

Structured tools were developed for the observation of practices followed by PHC MOs during their clinical interactions with clients, as well as for exit interviews with young clients who reported any of the three selected health concerns.

KEY FINDINGS

I. Increased knowledge and understanding of reproductive health service provision to young clients

The study shows that the training did influence MOs' understanding on the need to ensure privacy to young female clients. More MOs at endline (10 out of 28, as against 6 at baseline) reported the need for confidentiality and privacy for young female clients. The findings also suggest a statistically significant improvement in MOs' knowledge in the intervention district from baseline to endline about young female clients and their health problems. For example, they could provide significantly more accurate responses on the proportion of adolescents and young female clients seeking care related to vaginal discharge ($t=4.61$, $p<0.05$), menstrual problems ($t=2.22$, $p<0.05$) and antenatal care ($t=7.61$, $p<0.05$). In the control district, there was no difference between baseline and endline.

At endline, significantly more MOs from the intervention district (22 out of 28, as against 6 at baseline) stated that more than 30 percent of their adolescent and young female clients seek antenatal care ($z=5.23$, $p<0.05$). This is in line with NFHS-3 data from Gujarat which indicates that around 31 percent of pregnant women in the age group 15-24 sought antenatal care from community health centres, PHCs, sub-centres or *anganwadi* centres.

II. Improved attitudes towards and interactions with young clients

The study clearly indicates improvements in the attitudes of MOs in the intervention site towards young female clients.

More MOs in the intervention district changed their views between baseline and endline on the health problems of young female clients, which they had earlier ascribed to risky behaviour and sexual activity, coupled with lack of awareness. After the intervention, significantly more MOs believed that the health problems of young female clients not only stemmed from their sexual activity, but were also due to their lack of awareness (21 MOs at baseline versus 27 MOs at endline) ($p<0.05$). In the intervention site, at both baseline and endline, most MOs were aware of the need for special care during an adolescent pregnancy, but at endline more MOs were aware that social and cultural barriers were a major reason why young women avoided seeking reproductive health services.

While MOs in the control site were already well informed about the importance of ensuring privacy and confidentiality to their young female clients, MOs in the intervention site showed significant improvements in their understanding about the need for appropriate service delivery mechanisms to ensure confidentiality and privacy to young clients (5 MOs at baseline versus 23 MOs at endline) ($z=6.12$, $p<0.05$).

In the intervention district, more MOs engaged in history taking and rapport building with clients after their training, which they had rarely done previously. Other positive changes included encouraging young clients to ask questions, ensuring confidentiality and explaining the process of examination and treatment. The findings suggest that in the intervention district, providers' efforts on rapport building around the personal lives of their clients improved significantly; significantly more MOs at endline were observed asking clients about their dietary habits ($z=2.0$, $p<0.05$), self image ($z=1.76$, $p<0.05$) and education or jobs ($z=1.79$, $p<0.05$). An index created to capture history taking by MOs showed a significant improvement in the intervention district, with the higher standards increasing from 3 percent to 14 percent and the medium standards increasing from 57 percent to 63 percent from baseline to endline ($z=1.65$, $p<0.05$). In contrast, the control district shows a decline in history taking by MOs.

MOs reported that they were hampered by the lack of time in detailed history taking and conducting the HEADS assessment (enquiries about a client's home, education/employment and dietary habits, activities, drugs, sexuality, safety and suicide/depression); they said they could not prioritize time for this when faced with a heavy client load or administrative work.

III. Improved procedures in assessing, classifying and treating young clients by following the Adolescent Job Aid

The study tested whether MOs were following the recommended procedures to treat young female clients with health problems – assessment, pre-examination explanations, examination and treatment. The results showed a positive impact of the training on MOs in the intervention area, as they were observed to be following all the recommended steps in dealing with their young female clients.

The study was also able to demonstrate that rapport building and HEADS assessment improved significantly in the intervention district from baseline to endline, and in comparison with the control district. At endline, significantly more MOs in the intervention district were seen greeting clients ($z=2.40$, $p<0.05$), enquiring about their problems ($z=1.73$, $p<0.05$), assuring them of confidentiality ($z=2.10$, $p<0.05$) and explaining the process ($z=1.93$, $p<0.05$). The OP/AJA training appeared to improve the level of confidence among MOs in handling their young female clients. In the intervention district, at endline more MOs appeared to be more comfortable (24 percent at baseline versus 35 percent at endline) and ensured that clients understood their explanations (58 percent at baseline versus 66 percent at endline), in addition to being more sensitive, friendly, respectful, and nonjudgmental (66 percent observations at baseline versus 71 percent at endline). In contrast, in the control district, the behaviour of MOs at both baseline and endline was poor on these parameters.

Pre-examination explanations: The findings suggest greater levels of interaction and better service delivery to clients with menstrual problems in terms of MOs providing pre-examination explanations. In the intervention district, many more clients received explanations on the need for physical/pelvic examinations (7 percent at baseline versus 29 percent at endline) ($z=2.28$, $p<0.05$), with reassurance provided prior to the examination (39 percent of the clients at baseline versus 45 percent at endline).

Physical examinations: In the intervention district, at endline there were fewer incidences of a chaperone or health worker being present in the room during the examination and more

instances of MOs making an effort to maintain auditory and visual privacy. For example, during their examination of antenatal care clients, significantly more cases were observed at endline (44 percent compared to 17 percent at base line) where MOs maintained privacy ($z=1.98$, $p<0.05$). More importantly, at endline MOs in the intervention district made a greater effort to put their clients at ease and make them feel comfortable during the examination.

Assessment of complaints: The training of MOs in the intervention district appeared to have had positive effects on their dealing with clients who experienced vaginal discharge, as there was an increase in the number of cases where MOs made an effort to understand the complaint by enquiring about the colour and consistency of the discharge (69 percent of the cases at baseline versus 85 percent at endline).

Case management: At endline, MOs in the intervention district performed far better in terms of managing/treating young female clients with menstrual problems, than their counterparts in the control district. More MOs in the intervention group communicated to clients at endline their diagnosis about their condition, discussed possible treatment options, helped clients choose from among various options, and explained the dosage, course and follow-up treatment and need to comply with the prescribed treatment. For example, in the treatment of clients experiencing menstrual problems, more MOs at endline (52 percent against 43 percent at baseline) explained the diagnosis and condition to their client, and more MOs explained the need to comply with the prescribed treatment (39 percent at baseline versus 58 percent at endline). These changes, while positive, were not statistically significant. In the control district, no significant changes were observed in this indicator.

Informing clients: At baseline, MOs rarely discussed issues such as hygiene and partner treatment with their clients. At endline more MOs in the intervention district explained the drug regimen to clients, and counselled them on the importance of compliance with the recommended treatment, and the need for partner treatment and maintenance of hygiene. For example, significantly more cases of menstrual problems at endline (45 percent) were observed where MOs discussed genital hygiene ($p<0.05$); at baseline the corresponding percentage was 18 percent. They also reassured clients they had nothing to worry about. The control district showed a decline in indicators related to informing clients.

Findings on the treatment of irregular menstruation cases show that many more MOs from the intervention district strove to understand case information at endline compared to baseline. The practice of enquiring about contraceptive use with clients experiencing irregular periods also increased from baseline to endline in the intervention district.

IV. Improved client perceptions of the quality of consultations and satisfaction with services

A key indicator for this objective was to assess if clients felt the provider had made an effort to maintain a positive and supportive environment, and whether privacy was maintained during the visit. In addition, questions were asked to explore clients' satisfaction with the visit, such as whether their queries had been answered, if they had received the desired information, and about the attention they received from the MO. Findings from the client interviews validated the findings from interviews with MOs.

In the intervention district, at endline more clients than at baseline reported receiving detailed

information about their problems, pre-examination information and instructions from the MO to follow the prescribed treatment.

Significantly more clients showed confidence in the MO at endline, and reported having greater privacy during the interactions, including an examination in a separate room. Notably, at endline, significantly more clients (76 percent) in the intervention district reported that privacy was maintained, compared to the baseline (60 percent) ($z=2.98$, $p<0.05$); and the proportion of clients examined in a separate room increased from 43 percent to 65 percent ($z=1.51$, $p<0.10$). At endline, a significantly higher number of clients than at baseline believed their consultation with the MO would be kept confidential (58 percent at baseline versus 70 percent at endline) ($z=2.15$, $p<0.05$). The control district did not show any improvement in this indicator between the two rounds, but its values were already higher than the intervention district at baseline. At endline in the intervention district, a majority of the clients were satisfied that the MO had maintained privacy; and a significantly higher proportion also said that all their concerns were attended to by the MO (60 percent at baseline versus 90 percent at endline) ($z=6.37$, $p<0.05$). This improvement is noteworthy in the context of a rural PHC, where space is a constraint and often the client load does not allow doctors to easily segregate waiting space.

The study explored whether clients recalled the information given by the MO on the cause and diagnosis of the problem, and on the medical treatment provided/prescribed by the MO, including treatment for the partner, care to be taken at home, and follow up. In the intervention district, the proportion of clients reporting that MOs explained the results of the examination increased from 28 percent at baseline to 62 percent at endline ($z=2.43$, $p<0.05$). The overall positive clinical experience of young clients was also reflected in the improved recall of their interaction with the MO, the MO's instructions on the prescribed treatment, and procedures to be followed. In the intervention district, significantly more young clients at the end of the study were willing to follow the treatment prescribed and return to the health centre for their future needs.

Overall client satisfaction with the services and information received and ease of following advice increased from 62 percent at baseline to 81 percent at endline ($z=3.69$, $p<0.05$). Clients also reported finding MOs more sensitive, saying they had been treated with respect. These improvements show the significant role of training in sensitising MOs to the concerns of young female clients and on handling these clients in a respectful, non-judgmental and friendly manner.

INTRODUCTION

The International Center for Research on Women (ICRW) in collaboration with the Foundation for Research in Health Systems (FRHS), Ahmedabad, conducted an intervention research study to test the effectiveness of tools developed by World Health Organization (WHO) in building the capacity of health workers globally to respond to their adolescent and young clients effectively and with sensitivity.

The WHO's Department of Child and Adolescent Health and Development team has developed a set of tools called the Orientation Programme (OP) on Adolescent Health and the Adolescent Job Aid (AJA) to improve the quality and sensitivity of health workers to adolescent and young clients. The study was designed to evaluate whether the OP and AJA improve the quality of service provision and experiences of care, for select reproductive health services, to young female clients. The study was conducted in the state of Gujarat, India.

Medical Officers (MOs) at Primary Health Centres (PHCs) in India and the staff working under them are often the first level of contact for adolescents and young clients within the health system in rural areas. They have a major role to play in the healthy development of adolescents and young people, through their response to the health concerns of people in this age group.

Various situation analyses and needs-assessment studies within and outside the country have indicated the inadequacy in skills and deficiencies in "human qualities" that lead to the inability, or sometimes even the reluctance, of health care providers to deal with adolescents and young people in an effective and sensitive manner. To address this need, the WHO's Department of Child and Adolescent Health and Development designed the OP and the AJA.

The study evaluates the effect of training on the OP and the AJA of medical officers in PHCs on the quality of health service provision for adolescents and young people. The OP is intended to improve health workers' understanding of adolescent and young clients' needs; their ability to respond to them with empathy, sensitivity and respect; to motivate them to understand and respond to adolescents and young clients' needs, and to suggest what they could do as providers of health services to this demographic group. The OP consists of core and optional modules. While the six core modules are mandatory, the optional modules are implemented based on local needs and resources. Each module consists of four components: introduction, inputs of facts and figures, participatory sessions and a conclusion. The facilitation methods include mini-lectures, methods, role-plays, case studies and guided discussions. This study attempted to test four core modules – menstrual problems, pregnancy prevention, antenatal care and vaginal discharge

The AJA, which complements the OP, is a handy desk reference tool with key guidelines to help trained service providers effectively deal with patients aged between 10 and 24 years. It is consistent with other WHO guidelines, and provides step-by-step guidance referred to as the "assess, classify, treat" algorithms or decision trees, to help MOs treat adolescent and young clients presenting problems.

WHO's Department of Child and Adolescent Health and Development has been testing the effectiveness of these tools in improving the performance of service providers in real-life

situations in different countries. In this context, WHO collaborated with ICRW, Asia Regional Office, to conduct this study to test the effectiveness of the OP and the AJA intervention package on MOs of PHCs in the state of Gujarat, India. Based on previous partnerships and experiences in conducting high-quality health systems research, ICRW partnered with FRHS, Ahmedabad, to implement the study. The key expectation from the study was to validate the utility and effectiveness of the OP and AJA, to draw out lessons that could guide their modification and further development, and to encourage other countries to apply these tools within their national health systems.

STUDY GOAL

The overall goal of this study was to evaluate whether the Orientation Programme and Adolescent Job Aid improved the quality of service provision and experiences of care for selected reproductive health services to young female clients.

STUDY OBJECTIVES

The objectives of the study are twofold:

1. To determine whether the Orientation Programme on Adolescent Health and the Adolescent Job Aid led to the following outcomes among MOs:
 - a. Increased knowledge and understanding of reproductive health service provision to young female clients;
 - b. Positive attitudes and respectful, sensitive and appropriate interactions with young female clients;
 - c. Practices that are consistent with the Adolescent Job Aid on assessing, classifying and treating young female clients presenting concerns about vaginal discharge/ sexually transmitted infections, and irregular periods and clients seeking antenatal care (ANC).
2. To determine whether the Orientation Programme on Adolescent Health and the Adolescent Job Aid led to the following improved outcomes among young female clients that they:
 - a. Had a positive clinical encounter with the MO;
 - b. Could recall the information provided by the MO;
 - c. Intended to comply with the advice provided by the MO; and
 - d. Expressed willingness to return to the MO for future health needs.

HYPOTHESIS

The hypothesis was that the orientation and training of MOs using the Orientation Programme on Adolescent Health and the Adolescent Job Aid would lead to an improvement in the quality of service provision and experiences of care for the selected reproductive health services to young clients in the intervention group, compared with the control group, in the post-intervention period. A 20 percent change was used to calculate a sizable sample of clients for the exit interviews.

STUDY SITE

The study was carried out in the state of Gujarat, which was selected based on the characteristics of its female adolescents and youth population, and their use of health services.

We envisaged that the size of the youth population, and particularly the number of married young female clients who are more likely to express their reproductive health needs and problems, combined with the pattern of health service use in the state would ensure a sufficient population from which to draw a sizable sample of young female clients for the study.

While there is a wide range of variations on these factors throughout India, we sought a state that was closer to the national average on several parameters relevant to the study. Nearly 21 percent of Gujarat's population comprises young people, against the Indian average of 22.4 percent. Gujarat has a lower proportion of women aged 20-24 who are married by age 18 (33.5 percent) than the country average (44.5 percent) and of young women who have a child/are pregnant (Gujarat: 13 percent; India: 16 percent)¹.

Gujarat also exceeds the national average in use of health services, such as accepting family planning methods (Gujarat: 57 percent; India: 56 percent), antenatal care (Gujarat: 65 percent; India: 51 percent), institutional deliveries (Gujarat: 55 percent; India: 41 percent), and childhood immunizations (Gujarat: 45 percent; India: 44 percent)².

FIGURE 1

LOCATION OF INTERVENTION AND CONTROL DISTRICTS IN GUJARAT, INDIA



- 1 National Family Health Survey-3, Government of India, 2005-6
- 2 National Family Health Survey-3, Government of India, 2005-6

There are, on average, 43 PHCs in a district in Gujarat, and about 98 percent of the designated MO posts in the state are filled³. Given that a high proportion of posts were filled, we assumed that 40-50 MOs would be available to attend a five-day training course on the Orientation Programme on Adolescent Health and the use of the Adolescent Job Aid.

STUDY DESIGN

Based on the study hypothesis, the proposed intervention involved training MOs from PHCs to effectively deal with young female clients, using the OP and AJA. The intervention was planned in collaboration with the state government, keeping in mind the issues of reach and sustainability of such efforts in the public health delivery system if the intervention demonstrated positive results. The study was designed and conducted in consultation with the State Health Commissioner; the intervention was planned in one district of Gujarat, with another similar district selected as the control site.

The study used a quasi-experimental research design to determine whether MOs trained with the OP and AJA provide health services to young female clients more effectively and sensitively than MOs who have not undergone the training. Specifically, the study attempted to evaluate MOs performance in relation to four selected reproductive health algorithms (menstrual problems, pregnancy prevention, antenatal care and vaginal discharge which may or may not be due to a RTI/STI). The outcomes were assessed for young female clients aged 15-25 years through observations of client-provider interactions as well as exit interviews with clients.

Districts that were contiguous with the intervention district were eliminated as control districts, to minimise the risk of research contamination. Districts which had already gone through some training and had set up Adolescent Friendly Health Service (AFHS) centres at the PHCs were also not selected. Districts with more than 40 PHCs were shortlisted for selection as intervention and control sites. After selecting the intervention district, a control district was selected from the remaining, non-contiguous districts, which had a similar adolescent and young population.

The original study design envisaged training around 25 MOs in two intervention districts. Later, on the suggestion of the state health department, all MOs from all the PHCs in one intervention district - a total of 40 MOs - were included in the training. To ensure that all 40 MOs were not withdrawn at the same time for the five-day training, it was carried out in two batches of 20 MOs each. The training did not cover non-allopathic⁴ MOs posted in the PHCs.

INTERVENTION AND CONTROL SITES

Based on the criteria mentioned above and the convenience of the research team, Mehsana district (with 48 PHCs) was selected as the intervention arm and Kheda district (with 50 PHCs) as the control arm. Both had a similar proportion of population (20-22 percent) in the age

3 http://www.gujhealth.gov.in/health_programmemes/rural%20health/Index.htm

4 Allopathic doctors are those trained in modern system of medicine and surgery (M.B.B.S.) and non-allopathic (AYUSH) doctors include those trained in Indian System of Medicine such as Ayurveda, Homeopathy, Siddha and Unani. AYUSH doctors are also the part of the public health service delivery system.

group 10-19 years, the same mean age at marriage (18-18.8 years), and around 37 percent of women married by the age of 18 years.

The study was conducted in early-2009 and data from the 2001 census was used to compare the two districts. Mehsana district is situated in the north of Gujarat state, and has 593 inhabited villages. Its population was 1,837,892 and sex ratio was 926 (females per 1,000 males) in 2001; the overall literacy rate was 75.2 per cent, with a male literacy of 86 percent and female literacy of 64 per cent. According to a recent assessment, about 14 percent of the population lives below the poverty line⁵.

Kheda district falls in the plains of Gujarat and has 612 inhabited villages. Its population was 2,024,000 in 2001, with a sex ratio of 923 (females per 1,000 males), an overall literacy rate of 72 percent, with a male literacy rate of 86 percent and female literacy of 57 percent. The proportion of families below the poverty line is 16.4 percent (Census 2001).

INTERVENTION

The intervention consisted of a five-day training in the OP⁶ and the use of the AJA⁷, for all allopathic MOs posted at PHCs. Prior to the training of MOs, a baseline survey was conducted in the intervention and control districts.

Two five-day workshops were conducted during March and July 2009 by Indian master trainers selected by WHO. The training was interactive and used participatory methods to keep the MOs engaged over the five-day period. Following the workshops, the MOs were given a copy of the AJA to use in the course of their duties. In addition, pre- and post-training assessments were carried out during both trainings to determine the quality of training.

EVALUATION

The evaluation survey was conducted at two points, before the training (baseline) and after (endline). A baseline survey was conducted to establish benchmarks for the evaluation before starting the intervention.

We hypothesized that it would take 4-5 months for MOs to become comfortable with using the AJA. This was thought to be sufficient time to test the retention of knowledge and evaluate how the AJA was being used on the job. Therefore, the endline was planned to be undertaken 4-5 months after the scheduled training of the MOs.

5 Directorate of Economics and Statistics, Government of Gujarat, 2008-09

6 The OP is intended to orient health workers to the special characteristics of adolescents, and to strengthen their ability to carry out two key functions - responding to the special needs of their adolescent patients, and being an advocate and change agent on their behalf in their communities.

7 The Adolescent Job Aid is a handy desk reference tool for health workers (trained and registered doctors, nurses and clinical officers) who provide services to children, adolescents and adults. It aims to help these health workers respond to their adolescent patients more effectively and with greater sensitivity. It provides precise, step-by-step guidance on how to deal with adolescents when they present a problem or a concern about their health or development.

The specific survey activities undertaken in both the intervention and control districts during the baseline and endline surveys and their goals were:

- Assessment of provider knowledge and attitudes through a Knowledge and Attitude (KA) survey of MOs;
- Observations of client-provider interactions to assess the key outcome indicators for attitudes and practices;
- Client outcome assessments through client exit interviews; and
- A facility checklist (only at baseline) to assess the preparedness of the facility to deal with young clients.

After the completion of the endline survey in both districts, qualitative in-depth interviews were conducted with three randomly selected MOs in the intervention district to understand their experiences in using the AJA, the constraints and difficulties they faced, and their suggestions on adapting the OP and AJA to the local context.

STUDY GROUPS

The study groups in the intervention and control districts included: a) MOs stationed at government PHCs; and b) young female clients aged 15-25 seeking services for any of four selected reproductive health issues - menstrual problems, pregnancy prevention, antenatal care and vaginal discharge.

Inclusion criteria for MOs

- Allopathic MOs from the selected PHCs
- Informed consent to participate in the study

Inclusion criteria for clients

- Married or unmarried female clients aged 15-25 years with at least one of the four presentations: menstrual problems, pregnancy prevention, antenatal care, and vaginal discharge.
- Clients who consented to participate in the study

STUDY SAMPLE

The sampling methodology and calculations were based on preliminary research to establish caseloads on particular health conditions and their frequency in Gujarat PHCs. FRHS spent time in the field reviewing service statistics at PHCs to determine the number of cases for each health condition that MOs were likely to encounter during the period of observation.

Sample of Medical Officers

Each PHC in Gujarat has two MO posts, one allopathic and one a provider of AYUSH (the Indian system of medicine). The district health management provided a list of allopathic MOs for inclusion in the training workshops on the OP and AJA in the intervention district; allopathic MOs from the control district served as a comparison group.

An initial assessment of the intervention district revealed that many female MOs are AYUSH providers and that female clients were more comfortable consulting a female MO, who might be the AYUSH provider, for reproductive health services. The state health team considered including AYUSH MOs in the intervention, but decided against it as the AJA is designed for the allopathic system of medicine.

With approvals from the Office of the Commissioner of Health, the Additional Director Health and Family Welfare Gujarat, and the Chief District Health Officer of the two districts, the study team contacted medical officers, Lady Health Visitors (LHVs) and Auxiliary Nurse Midwives (ANMs) attached with the study PHCs to inform them about the study.

Client Sample

The ANMs and LHVs helped identify clients who met the criteria for inclusion. AYUSH MOs were also requested to refer female clients who met the inclusion criteria to the allopathic MOs in their PHCs. Access to female clients was additionally done through referred cases from government-organized camps in the PHCs.⁸ Four teams of three individual researchers each helped enroll the targeted number of clients within the timeframe for the study.

Securing Informed Consent

The study sought informed consent from providers in both districts prior to interviewing them and initiating observations at the site.

Client consent was built into the initial discussions with identified clients, who were given the option of declining to participate in the study. Interviewers asked clients if they were willing to participate in the client exit interview as well as in the observation of the provider-client interaction. The client was assured privacy and confidentiality and was informed that the other person in the room during the observations was also a doctor. For physical examinations, the MO took the client to a stretcher/bed behind a screen. A verbal consent procedure was used, as many clients were not literate. The study team offered to provide clients with a copy of the informed consent forms, but all the participants in the study declined the offer.

STUDY TOOLS

Study tools were specifically developed to reflect the aims and objectives of the OP and the AJA. In India, several OP training workshops have been conducted and evaluated with validated tools. Where possible, questions from previously validated tools were used in developing the tools used in this study. Where new tools had yet to be tested, sufficient time was spent pre-testing the components of the new tools. All tools were translated into Gujarati and back-translated into English. They were pilot-tested and revised in a non-study district prior to their use in the full study. Interviewers and observers were thoroughly trained in ethical issues of research as well as on the study tools, design and objectives.

8 Camps are organized in the more remote areas by district health teams, along with PHC/CHC staff every 2-3 months for reproductive and child health services, including family planning, and treatment for RTI/STIs. In addition, AYUSH MOs and ANMs/LHVs routinely organize health meetings in communities and schools in the PHC catchment area as part of their outreach duty.

Structured tools were developed to observe the practices followed by MOs during their clinical interactions with clients and for exit interviews with young female clients who reported any of the four selected health concerns. The baseline facility assessment used a structured instrument which assessed PHCs on the availability and training of the staff, physical infrastructure, equipment and supplies, service protocols and guidelines, services provided and their information systems. A semi-structured instrument was developed for assessing the knowledge and attitudes of MOs at the PHCs.

Research Staff

Interviewers recruited for the study typically had a social sciences background and were experienced in conducting interviews and observing provider-client interactions. All provider-client interactions were observed in person by a trained observer to assess the nature of the interaction. An allopathic female doctor was also part of the study team to conduct observations. All the recruits went through a two-day training, which included role plays and exercises to ensure consistency and quality in data collection at each point in the study.

Sample Size

Data was collected both at baseline and at endline at all the PHCs in both the intervention (Mehsana) and control sites (Kheda). At each PHC we attempted to interview 5-6 young female clients per MO who presented any of the selected four reproductive health concerns. The expected sample size was approximately 200-240 clients per district. The sample size was calculated using "percentage changes in the composite index for a positive and sensitive attitude towards young clients during the clinical encounter" as the key outcome indicator. The sample sizes during the baseline and endline surveys in both the intervention and control arms are given in Table 1.

TABLE 1
SAMPLE COVERED DURING BASELINE AND ENDLINE SURVEYS

| Type of Assessment | Mehsana (Intervention) (number) | | Kheda (Control) (number) | |
|---|------------------------------------|---------------|-----------------------------|---------------|
| | Baseline | Endline | Baseline | Endline |
| Facility assessment | 48 | Not Conducted | 50 | Not conducted |
| Knowledge and attitude assessment of PHC MOs | 40 | 28 | 39 | 28 |
| Observation of PHC MO practices | 123 | 85 | 108 | 119 |
| Client exit interviews | 230 | 140 | 155 | 195 |

By endline there was attrition in the sample of trained MOs in both districts, as some left for long leave or deputation, or were transferred to other locations. Of the 40 trained allopathic MOs in the intervention district, 12 were not available at endline. We therefore excluded the 12 MOs who were not available at endline from the analysis. Correspondingly the number of

client-provider observations and client exit interviews decreased at endline in both districts. Thus we were not able to meet the required sample size for analysis for observations and client exit interviews at endline.

Profile of Exit Interview Clients

The majority of clients were 18 years or above (83 percent in the intervention district and 80 percent in the control district at baseline). Most of these women (85 percent and over) were literate, with the intervention district having a slightly higher proportion of illiteracy. About 28- 42 percent of the clients were unmarried (Table 2).

TABLE 2
CLIENTS' BACKGROUND CHARACTERISTICS

| Categories | Intervention District (%) | | Control District (%) | |
|------------------------|---------------------------|-----------------|----------------------|-----------------|
| | Baseline (n=154) | Endline (n=140) | Baseline (n=140) | Endline (n=140) |
| Age less than 18 years | 17 | 20 | 20 | 32 |
| Age 18 years and above | 83 | 80 | 80 | 68 |
| % literate | 85 | 87 | 91 | 91 |
| % married | 72 | 62 | 67 | 58 |

TABLE 3
HEALTH PROBLEMS OF YOUNG FEMALE CLIENTS VISITING PHCs

| Reason for Visit | Intervention District (%) | | Control District (%) | |
|--------------------|---------------------------|-----------------|----------------------|-----------------|
| | Baseline (n=154) | Endline (n=140) | Baseline (n=140) | Endline (n=140) |
| Vaginal discharge | 40 | 40 | 39 | 38 |
| Antenatal care | 16 | 16 | 18 | 16 |
| Menstrual problems | 50 | 41 | 46 | 47 |

About two-fifth of the clients interviewed during the exit interview had come to the PHC for vaginal discharge problems. About half of them had come for menstrual problems and around 16-18 percent for antenatal care (Table 3).

The sample size for clients who presented pregnancy prevention problems was very low, almost negligible, in both districts (less than 10 clients). The study team decided to exclude these from the analysis due to their limited contribution to understanding the effects of the

training by conditions that clients presented. In subsequent sections of the report we will refer to data from only patients presenting with three conditions: menstrual problems, antenatal care, and vaginal discharge.

DATA ENTRY AND ANALYSIS

Data was entered and analyzed using SPSS, with thorough data checks. An analysis plan was formulated. The intervention and control groups were compared in terms of outcome measures, socio-economic variables and distribution of clients for the three algorithms retained for the analysis.

The analysis plan included a comparison of the knowledge, understanding, attitudes and practices of MOs in these PHCs. It also included an assessment of information recall by clients, intention to comply with the advice provided during their interaction with the MO, and their willingness to return to the MO for future health needs. The quality of the clinical interaction was analyzed through the observation data, and the client perspective was determined through exit interviews conducted in both the intervention and control districts.

The assessments included - at a minimum - the respect that providers accorded to their clients and their efforts to ensure client privacy and enhance client understanding; from the clients' perspective the assessment included perception of appropriate care and respect accorded during the interaction, and their overall satisfaction with the visit. The client exit interviews were analyzed to establish differences between intervention and control groups along with various dimensions of client experiences, knowledge gained and intent to follow medical counselling.

Responses from the provider on knowledge and attitudes were assessed as positive or negative based on inputs provided during the training. Based on these, attitudinal and assessment indices were developed. The baseline and endline cumulative scores were compared to assess changes resulting from the training.

Changes in MOs' practices from baseline to endline and their consequent experiences were assessed through observations of clinical practices and responses by clients in their exit interviews. The significance of these changes was assessed using the Z test.

Similarly, indices for clients' experiences with clinical examination and provider visits were developed. The changes were assessed in the intervention group and control groups between baseline and endline.

Since the number of MOs interviewed both at baseline and endline in the intervention and control arms was small (28), findings from that data are presented in numbers. Findings from the observations and exit interview data are presented in percentages; in instances where the number of observations or exit interviews is less than 20, the findings are presented in numbers.

FINDINGS

The findings are presented in alignment with the key objectives of the study. The analysis framework (below) outlines the key outcome indicators and data source to assess the indicators. The key outcome indicators within the two study objectives are given in the table below.

| Objective | Domain indicators | Data source |
|--|---|--|
| Training with the Orientation Programme and the Adolescent Job Aid will lead to the following outcomes among medical officers (MOs): | Increased knowledge and understanding of reproductive health service provision to young female clients | MOs from the intervention and control districts that remained in the district and were available during the study period (28 from each district) |
| | Attitudes towards and encounters with young female clients are positive, respectful, sensitive, and appropriate | Client-MO interactions observed in the intervention and control arms both at baseline and endline. Direct observation of the management of cases coming to them by the 28 MOs in each district available at PHCs both at baseline and endline |
| | Practices in line with the Adolescent Job Aid on assessing, classifying and treating young female clients presenting with concerns about vaginal discharge, irregular periods, and antenatal care | Client-MO interactions observed in the intervention and control arms both at baseline and endline. Direct observation of their management of cases coming to them by the 28 MOs in both districts available at the PHCs both at baseline and endline |
| Training with the Orientation Programme and the Job Aids will lead the following outcomes among young clients: | Increased number of young female clients who feel that they had a positive clinical encounter with the MO | Exit interviews with young female clients coming out of the clinic after receiving services for any one of the three conditions; in the intervention arm, 154 exit interviews were conducted at baseline and 140 at endline. The corresponding figures for the control arm were 140 each at baseline and endline |
| | Increased number of young female clients who can recall the information provided by the MO | |
| | Increased number of young female clients who intend to comply with the advice provided by the MO | |
| | Increased number of young female clients who express a willingness to return to the MO for future health need | |

Besides presenting the findings on the above two objectives, this section includes findings from a few qualitative interviews with the MOs to assess their views on the OP and AJA training, their experiences in implementing the AJA in routine work, challenges or constraints

they faced in applying the AJA in their work, and their suggestions on improving or modifying the tools for future adaptations.

Profile of MOs: More than three-fourths of the MOs (22 out of 28) interviewed in both districts at baseline and endline were male. In the intervention arm, the MOs were younger, with more than half of them below 35 years of age. In contrast, one-fourth of the MOs in the control arm (25 percent) were above 45 years of age, and one-tenth of these MOs had had more than 25 years of field experience.

Objective 1: Training with the Orientation Program and the Adolescent Job Aid will lead to increased knowledge and understanding of RH service provision to young female clients, positive attitude and encounters with clients and increased practices in line with Adolescent Job Aid.

The first objective of the study was to train the MOs through the use of the Orientation Program and Adolescent Job Aid to increase their knowledge and understanding of reproductive health services for young female clients. The training was intentioned to improve MOs attitudes when treating young female clients and ensure that the clinical consultations occur in a non-threatening cordial environment. The objective also ensures that MOs increasingly use Adolescent Job Aid and follow treatment algorithms when assessing, classifying and treating the young female clients presenting with the concerns about the vaginal discharge, irregular periods and antenatal care.

Objective 1 (a): Increased knowledge and understanding of reproductive health service provision to young clients

The indicators to assess the objective on MOs' knowledge and understanding of adolescent health problems include the:

- Proportion of young female clients seeking RTI/STI treatment
- Proportion of young female clients seeking treatment for menstrual problems
- Proportion of pregnant young female clients seeking antenatal care

MOs' Knowledge about Adolescents Care Seeking: After the training MOs in the intervention arm provided significantly more accurate responses on the proportion of adolescent and young female clients seeking care for vaginal discharge ($t=4.61$, $p<0.05$), menstrual problems ($t=2.22$, $p<0.05$) and antenatal care ($t=7.61$, $p<0.05$). In the control arm, there was no difference on this indicator between baseline and endline.

In the intervention district, for example, at endline more MOs (22 out of 28) stated that more than 30 percent of their adolescent clients sought antenatal care compared to the baseline where only 6 of the 28 MOs said that more than 30 percent of their adolescent and young female clients did so ($z=5.23$, $p<0.05$). This in line with the NFHS-3 data from Gujarat which suggests that around 31 percent of pregnant women in the age group of 15-24 sought antenatal care from Community Health Centres (CHCs), PHCs, sub-centres or *anganwadi* centres.⁹ More MOs stated at endline that less than 10 percent of clients with RTI/STI seek treatment, acknowledging an awareness of the stigma attached to seeking RTI/STIs care (Table 4).

9 National Family Health Survey -3, Government of India, 2005-06.

TABLE 4

MOs' KNOWLEDGE ON ADOLESCENTS AND YOUNG FEMALE CLIENTS WITH HEALTH PROBLEMS SEEKING CARE

| Indicator | MOs who responded correctly (number) | | | |
|---|--------------------------------------|----------------|------------------|----------------|
| | Intervention District | | Control District | |
| | Baseline (n=28) | Endline (n=28) | Baseline (n=28) | Endline (n=28) |
| Proportion with RTI/STI seeking treatment | | | | |
| >30% | 6 | 7 | 12 | 11 |
| 21-30% | 1 | 2 | 3 | 1 |
| 10-20% | 11 | 6 | 1 | 3 |
| <10% | 10 | 13 | 12 | 13 |
| Proportion with menstrual problems seeking treatment | | | | |
| >30% | 6 | 8 | 11 | 10 |
| 21-30% | 1 | 1 | 3 | 1 |
| 10-20% | 3 | 14 | 3 | 4 |
| <10% | 18 | 5 | 11 | 13 |
| Proportion of pregnant adolescents and young female clients seeking antenatal care | | | | |
| >30% | 6 | 22 | 22 | 19 |
| 21-30% | 3 | 3 | 1 | 4 |
| 10-20% | 1 | 2 | 1 | 1 |
| <10% | 18 | 1 | 4 | 4 |

Features of Adolescent Friendly Health Services: To assess their knowledge and views on key features of adolescent friendly health services (AFHS), MOs were asked:

- To identify three features of "adolescent friendly" health services, and
- Their opinions on the following statements:
 - There should be separate and confidential health services for adolescents/ young female clients
 - Health workers need training to deal with the healthcare of adolescents/ young female clients

TABLE 5

MOs VIEWS OF IMPORTANT CHARACTERISTICS OF AFHS

| Indicator | MOs who responded correctly (number) | | | |
|--|--------------------------------------|----------------|------------------|----------------|
| | Intervention District | | Control District | |
| | Baseline (n=28) | Endline (n=28) | Baseline (n=28) | Endline (n=28) |
| MOs viewed important characteristics of AFHS as... | | | | |
| IEC activities | 14 | 11 | 12 | 6 |
| Counselling | 2 | 7 | 10 | 17 |
| Privacy | 6 | 10 | 10 | 7 |

MOs from both districts viewed the three most important characteristics of adolescent-friendly health services as – carrying out Information, Education and Communication (IEC) activities, counselling, and privacy. At endline, there was an increase in the number of MOs in the intervention district identifying privacy and counselling as important characteristics of AFHS; there was, however, a decrease in the number of MOs who considered IEC activities important in AFHS. No change was observed on these indicators in the control district. (Table 5)

'Now, the moment I see client's age on the registration slip, I am cautious that this client needs special attention. I try to ensure privacy and ask other clients go out of the room and keep the door half closed. No matter how much pressure I have on that day or at that time, I give extra time to adolescent clients.' [In-depth Interview, Female MO, Intervention district PHC]

In addition, at endline, MOs identified other important aspects of adolescent-friendly health services such as friendly behaviour; sensitization of other health staff and clinic timings that suit adolescents. This suggests the influence of the training in sensitizing MOs in the need for appropriate health services for young female clients. Excerpts from the in-depth interviews also indicate an increase in MOs' sensitivity towards providing privacy to adolescents.

Reflections from the Training

During the training, the MOs from the intervention district acknowledged that the critical elements of AFHS included privacy and confidentiality of services. However, many of the MOs felt the need to talk to family members about their clients' problems, defying norms of confidentiality, when it was a severe case as not talking with the family could place the client at greater risk of not addressing the problem. During these sessions MOs also noted that the lack of a supportive environment in PHCs to ensure privacy, in terms of separate rooms, or curtains and screens, as well as non-availability of same sex providers.

MOs also discussed socio-cultural issues such as counselling an unmarried client on family planning and reproductive health, especially when the provider is male and the client female. They also feared a backlash from the family/community if they discussed these issues with unmarried girls.

MOs also stated that since sexuality and reproductive health issues are traditionally considered to be within the domain of marriage, unmarried female clients were disadvantaged from seeking care on issues related to sexuality and contraception because of the associated stigma. However, such barriers were not felt by MOs to provide antenatal care as it falls within the domain of marriage in the Indian context. MOs also talked about the location of the PHC within a village, which could deter young female clients from visiting the OPD – especially if they could be easily identified by others. One recommendation was having separate timings for young clients in PHCs to maintain privacy and confidentiality.

Objective 1 (b): Attitudes towards and visits with young clients are positive, respectful, sensitive and appropriate

The attitudes of MOs were assessed based on their responses to questions on the vulnerability of adolescents' lives, causes of health problems, health needs of adolescents, role of parents in adolescent life and health, role of health workers, and need for confidentiality and separate services for young clients. Their attitudes were also observed¹⁰ during their interactions with young clients. Correct responses were those which corroborated the content of the training. Findings are presented by the following thematic areas:

Attitude towards adolescent vulnerability: To assess MOs' attitudes towards the vulnerability of adolescents and causes of their health problems, they were asked for their views on the following statements:

- Adolescent health problems are not only the result of their behaviour
- Lifestyle, risky behaviour and lack of unawareness make adolescents vulnerable to RTI/STIs
- Adolescent pregnancies result from the lack of education and poor socio-economic conditions

The findings suggest that after the training more MOs in the intervention district (compared to baseline) changed their original opinions that adolescent health problems stemmed from their behaviour or from poor education (Table 6).

¹⁰ Observation of attitude means the way in which health workers deal with their adolescent and young female clients, suggesting the underlying attitude.

TABLE 6

MOs' VIEWS ON CAUSES OF ADOLESCENT HEALTH PROBLEMS

| Statements | Intervention District (number) | | Control District (number) | |
|---|--------------------------------|----------------|---------------------------|----------------|
| | Baseline (n=28) | Endline (n=28) | Baseline (n=28) | Endline (n=28) |
| MO agrees that... | | | | |
| Adolescent health problems are not their own fault | 11 | 14 | 10 | 11 |
| Lifestyle, risky behaviour and lack of awareness make adolescents vulnerable to RTI/STI | 21 | 27* | 22 | 26 |
| Adolescent pregnancies are a result of lack of education and socio-economic conditions# | 11 | 12 | 26 | 26 |

* p<0.05

Data available only for 12 MOs from the intervention district from baseline and endline.

More specifically, as Table 6 shows, 27 MOs at endline in the intervention district, compared to 21 at baseline, noted that risky behaviour and lifestyle coupled with lack of awareness make adolescents vulnerable to RTIs; the numbers for the control district were 22 and 26, respectively. These indicate a significant improvement in the intervention district.

Attitude towards adolescents' special needs: One aspect of understanding MOs' attitudes was to see whether they believed that adolescents had different needs from adults. MOs were asked to give their opinions on the following statements reflecting that adolescents have special needs:

- Adolescents with menstrual problems do not need any treatment.
- Health providers should be sensitive to adolescents' menstrual problems and their embarrassment in seeking treatment.
- Adolescent girls need special care during pregnancy.

TABLE 7

MOs VIEWS ON SPECIAL HEALTH NEEDS OF ADOLESCENTS

| Statements | Intervention District (number) | | Control District (number) | |
|--|--------------------------------|----------------|---------------------------|----------------|
| | Baseline (n=28) | Endline (n=28) | Baseline (n=28) | Endline (n=28) |
| MOs agree that... | | | | |
| Adolescents learn to manage menstrual health problems when they grow up. There is no need to provide treatment | 4 | 6 | 13 | 6 |
| Health providers should be sensitive to the adolescents' menstrual problems and their embarrassment in seeking treatment | 28 | 28 | 28 | 28 |
| Adolescent women need special care during pregnancy# | 11 | 12 | 27 | 28 |

Data available only for 12 MOs from the intervention district from baseline and endline.

There was no observable difference between the intervention and control districts after the training. Health providers were already aware that they should be sensitive to adolescents' menstrual problems and their needs during pregnancy at baseline in both districts (Table 7). Interestingly there was lower awareness that menstrual problems may need treatment in both districts and this barely changed after the training in the intervention district.

Attitude on maintaining privacy/confidentiality/autonomy and consent: For young clients to be comfortable in seeking health services - especially for sensitive problems - it is critical to ensure their privacy in a healthcare setting. To ascertain MOs' views on this, we asked them to agree or disagree with a series of statements around consent, confidentiality, services to unmarried clients and privacy.

There was a significant increase in the number of MOs in the intervention district (from 5 at baseline to 23 at endline) who agreed with the statement that health providers should use appropriate service delivery mechanisms to ensure privacy ($z=6.12$, $p<0.05$); most MOs in the control district already agreed with this view at baseline and sustained this view at endline (Table 8). There was no observable change in either district on issues around consent and services to unmarried clients. There were providers who did not respond positively to this statement both at baseline and endline (e.g. around 10 providers did not agree that parental consent should not be mandatory in both baseline and endline) in the intervention district indicating the potential for improvement on this indicator.

Apart from this, the findings from this section indicate that MOs' awareness regarding the need for special care to young clients was already high at baseline and thus there was little scope for improvement. On the other hand MOs' attitude towards young clients' vulnerability and the need to provide services with confidentiality and privacy improved from baseline to endline.

TABLE 8

ATTITUDES OF MOs TOWARDS PRIVACY/ CONFIDENTIALITY/ AUTONOMY/ CONSENT ISSUES

| Statements | Intervention District (number) | | Control District (number) | |
|---|--------------------------------|----------------|---------------------------|----------------|
| | Baseline (n=28) | Endline (n=28) | Baseline (n=28) | Endline (n=28) |
| MOs agree that | | | | |
| Parental knowledge / consent should not be mandatory in treating adolescents | 18 | 18 | 19 | 22 |
| There should be separate and confidential health services for adolescents | 27 | 28 | 28 | 27 |
| Parents' consent should not be mandatory for discussing RTI/STI prevention with adolescents | 22 | 21 | 22 | 24 |
| It is not necessary for health providers to inform parents when their unmarried son/daughter come for contraceptive | 15 | 13 | 20 | 21 |
| Health providers should use appropriate service delivery mechanisms to ensure confidentiality and privacy to young people | 5 | 23 | 26 | 24 |

Objective 1 (c): Practices in line with the Adolescent Job Aid on assessing, classifying and treating young clients presenting with concerns related to vaginal discharge/sexually transmitted infections, and irregular periods, and seeking antenatal care (ANC).

Client-MO interactions were observed so as to assess the MOs' practices while treating adolescent clients experiencing any of the three study conditions. These assessments were based on direct observation of client interactions with the 28 MOs in both districts that were available at the PHCs both at baseline and endline. The practices were assessed on the basis of standard procedures listed in the AJA. MOs in the intervention district were trained on the AJA which involved establishing rapport, conducting a HEADS assessment on all adolescent clients irrespective of their condition, analysing the specific condition and treating the client by following the steps described in the AJA.

HEADS Approach to Assessing the Psychological and Social Condition of Adolescents

- Home: about family
- Education: interests and performance
- Eating: habits
- Exercise: habits
- Ambition: hopes for the future
- Activities: social and recreational
- Drug use: smoking and other psychoactive substances
- Sexuality: thoughts and feeling about their sexual activity
- Suicide: feelings and any thoughts about hurting self

The findings in this section are arranged as follows:

- a. General history taking: Rapport building measures undertaken and HEADS assessment done by MOs.
- b. Management of specific conditions: Necessary steps undertaken by MOs for clients presenting symptoms relating to RTI/STI, menstrual problems or pregnancy, by following the given steps:
 - Assessment of condition
 - Pre-examination explanation
 - Physical examination
 - Laboratory test proposed/discussed
 - Case management based on the condition
 - Condition-specific education provided

a. Rapport Building and HEADS Assessment

The study collected data on MOs' rapport building efforts and HEADS assessment practices through observations of MO-client interactions during the baseline and endline surveys. The observations recorded MOs' efforts at building rapport with their clients by enquiring about their home situations, education and habits. A two-stage analysis was carried out to detect any significant differences in MOs' practices in building rapport and the HEADS assessment – the intervention and control comparisons were conducted at endline to detect differences between the two groups, and baseline and endline comparisons were done to assess improvements within the intervention district. Findings suggest that in the intervention district, providers' efforts at rapport building and HEADS assessment improved significantly (Tables 9 and 10). The most notable changes were in the manner in which the provider greeted the client, helped them relax, asked about their lifestyle and enquired about their problems. There was no change in the time the provider took to explain the treatment or diagnosis. All the changes were significant both between intervention and control districts at endline as well as between baseline and endline in the intervention district.

TABLE 9

RAPPORT BUILDING BY MOs

| Indicators | Control District at Endline vs Intervention District at Endline | Z-value | Intervention District Baseline vs. Endline | Z-value |
|---|--|---------|---|---------|
| Greeted / welcomed | Significantly better in Intervention | 3.62* | Significantly better at endline | 2.40* |
| Enquired about problems | Significantly better in intervention | 3.88* | Significantly better at endline | 1.73* |
| Assured confidentiality | Significantly better in intervention | 2.77* | Significantly better at endline | 2.10* |
| Explained process (diagnosis and treatment) | No significant difference | 0.84 | Significantly better at endline | 1.93* |
| Helped client relax | Significantly better in intervention | 3.67* | No significant difference | 0.68 |

TABLE 10

HEADS ASSESSMENT BY MOs

| Indicators | Control District at Endline vs Intervention District at Endline | Z-value | Intervention District Baseline vs. Endline | Z-value |
|------------------------|--|---------|---|---------|
| MO asked about... | | | | |
| Home situation | Significantly better in intervention district | 2.46* | No significant difference | 0.39 |
| Education / job | Significantly better in intervention district | 2.88* | Significantly better at endline | 1.79* |
| Dietary habits | Significantly better in intervention district | 2.68* | Significantly better at endline | 2.00* |
| Self-image | Number too small | | Significantly better at endline | 1.76* |
| Free-time activities | Number too small | | Not significant difference | 1.43 |
| Feelings of insecurity | Number too small | | Significantly better at endline | 2.04* |

General History Taking

During their medical training, MOs are trained to note their clients' demographic details and history of present and past illnesses, so undertaking this in their assessment is not a novel practice.

The observation data suggests that the OP and AJA were successful in sensitizing MOs to the need for spending some initial time in building rapport with and gaining the confidence of the client. MOs made greater efforts to take clients' histories and to build a rapport, which they had rarely done previously. These included encouraging young clients to ask questions, ensuring confidentiality, asking clients about their home and life situation, among others (Table 11).

TABLE 11

GENERAL HISTORY TAKING BY MOs

| History taking | Intervention District (%) | | Control District (%) | |
|--|---------------------------|----------------|----------------------|----------------|
| | Baseline (n=86) | Endline (n=85) | Baseline (n=92) | Endline (n=86) |
| The MO | | | | |
| Greeted the adolescent in a friendly manner | 86 | 97* | 88 | 78 |
| Explained he/she would need to ask some questions | 35 | 49 | 46 | 31 |
| Assured confidentiality | 30 | 46* | 43 | 26 |
| Took the clients history in a manner that made the adolescent feel comfortable | 40 | 45 | 50 | 19 |
| Asked about the clients' life situation | | | | |
| Home situation | 14 | 14 | 2 | 4 |
| Employment situation | 9 | 19 | 2 | 5 |
| Eating habits and nutrition | 13 | 25* | 3 | 9 |
| Self-image | 0 | 4 | 0 | 1 |
| Free-time activities | 0 | 2 | 0 | 1 |
| Safety issues at home and in community | 0 | 5 | 0 | 2 |
| Asked the client to describe what she had come for | | | | |
| Concerns the client has come for | 97 | 100 | 88 | 84 |
| Signs and symptoms of concern | 93 | 92 | 77 | 85 |
| Asked for further information about the presenting complaint | | | | |
| Longevity of signs/symptoms, any earlier exposure | 72 | 80 | 70 | 56 |
| Earlier treatment taken for signs/symptoms | 61 | 72 | 66 | 36 |

* Significant differences at the 5% level of significance from baseline to endline in the intervention district.

The OP/AJA training of MOs in the intervention district appears to have had a positive effect on convincing them to do a HEADS assessment (aimed at improving their understanding of their clients' lives and situations, and helping them manage adolescent health problems). Significantly more interactions were observed at endline, in which MOs greeted clients well, asked them about their dietary habits and assured confidentiality of interactions.

'I do HEADS assessment with all adolescent clients, sometimes with adult clients also. However, there are things that you can not ask to a particular type of client. You can not ask an unmarried girl about the sexual history and talk on Family Planning methods. It is not culturally appropriate to talk on these issues with unmarried girls. I am a female, so too some extent I can ask something about these, if I realize the need to discuss these issues, but a male doctor certainly can not discuss these issues with unmarried girls'. [Female MO, Intervention District PHC]

At baseline, none of the clients in either district were asked about their self-image, free-time activities and feelings of insecurity. However, after the training a few MOs in the intervention district (4-5 in the intervention district and 1-2 in the control district) were observed asking their clients about their self-image and security at home. These shifts are not statistically significant but are interesting to note, given that few MOs make an effort to enquire about issues ordinarily considered unimportant by health care providers.

The situation in the control district was generally poorer than in the intervention district at baseline and continued to be so at endline. Observations showed MOs did one or other of the HEADS components with only a few clients. In fact, the observation data on history taking and rapport building presents an inconsistent picture in the control district, where the numbers on most indicators went down at endline compared to the baseline (Table 11). This remains an issue for further investigation in the control district as the data could have resulted from temporary/seasonal differences for MOs such as an epidemic, or programme pressure which affected MOs' interactions with their clients. Compared with the trends in the control district, the results from the intervention district become even more relevant, as despite these probable odds the training appears to have been useful in sensitizing MOs in the intervention district on the need to establish a rapport with their young clients.

An index of history taking was developed from the responses to the questions in Table 11. The response where an MO carried out a desired action was recorded as '1' and where he/she did not was recorded as '0'. The composite scores were categorised into low, medium and high on the basis of the range of scores obtained for all MOs.

FIGURE 2

GENERAL HISTORY TAKING INDEX - INTERVENTION DISTRICT

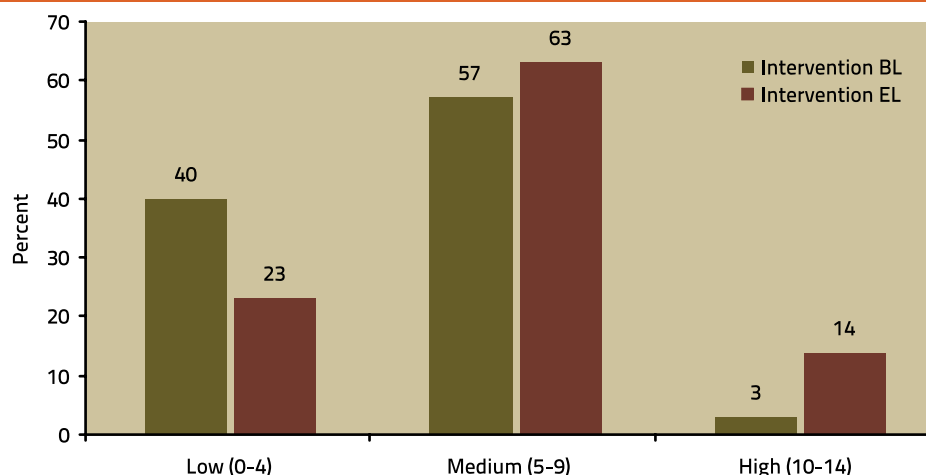
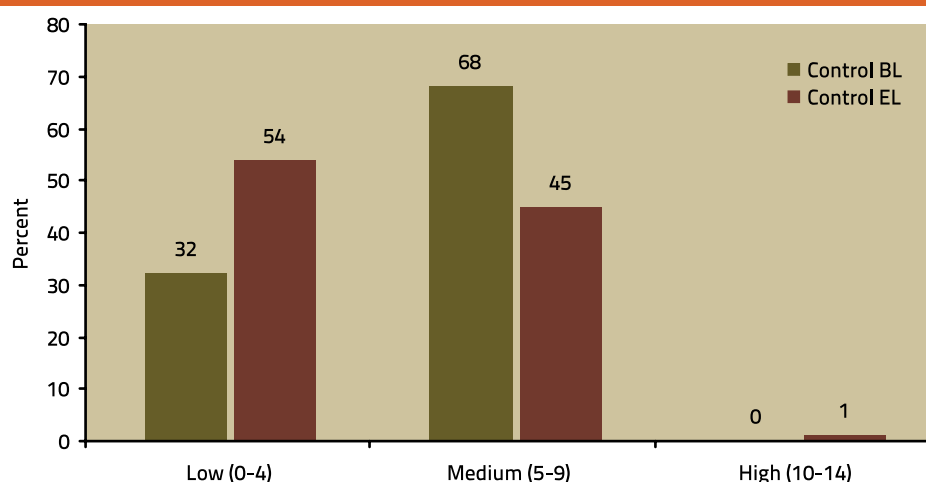


FIGURE 3

GENERAL HISTORY TAKING INDEX - CONTROL DISTRICT



The index shows significant improvement in history taking by MOs in the intervention district, as the high standard of history taking increased from 3 percent to 14 percent and the medium standard of history taking from 57 percent to 63 percent from baseline to endline. These changes were significant ($z=1.65$, $p<0.05$). In contrast, the index for the control district shows a decline in the medium level of history taking by MOs between baseline and endline (figures 2 and 3).

The qualitative assessment with MOs suggests that paucity of time was a major constraint in detailed history taking and conducting the HEADS assessment. Although they recognized the need to take a detailed history of their clients, they stated that it was often difficult to spare time for this due to a heavy client load and their other administrative duties. One MO noted this constraint as:

'We understand the need to give more time to asking adolescent clients about their home, life and habits before giving them the right medical advice. But often we can not do so as 20 other patients are lined up outside. Everyone is in hurry to get treatment and go home". [Female MO, Intervention District PHC]

The study team observed MO-client interactions to assess MOs' comfort in handling adolescent cases. The observations focussed on assessing whether MOs treated clients with respect, used language that was easy to understand and comprehensible to clients, and remained non-judgmental and friendly throughout the interaction.

FIGURE 4

MO INTERACTION WITH ADOLESCENT CLIENTS - INTERVENTION DISTRICT

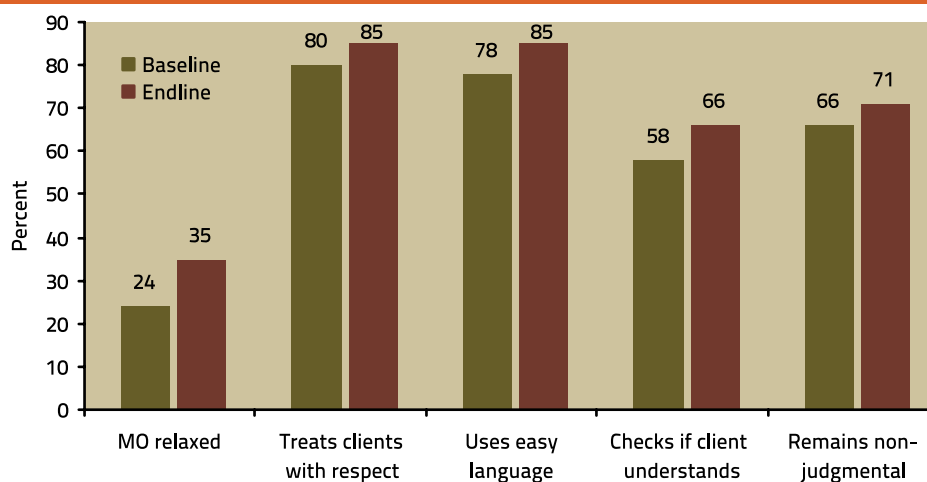
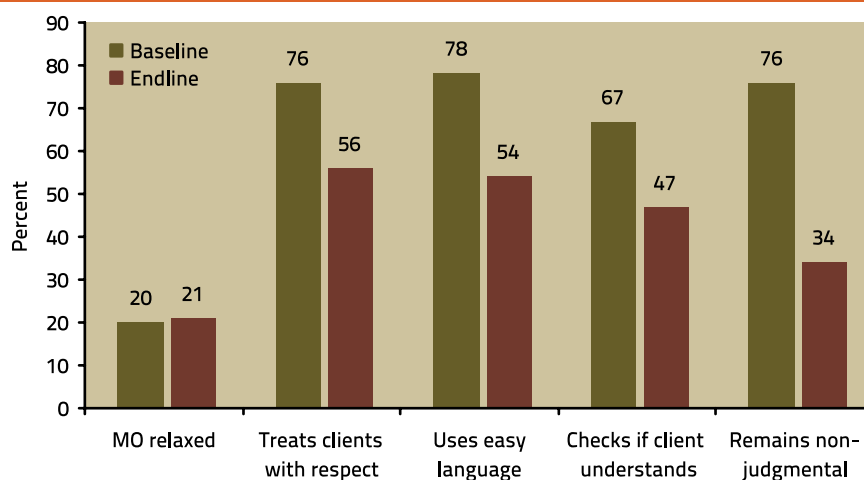


FIGURE 5

MO INTERACTION WITH ADOLESCENT CLIENTS - CONTROL DISTRICT



The OP/AJA training appears to have helped MOs in the intervention district in their interactions with their adolescent clients. At endline more MOs were seen to be comfortable, confident and relaxed while dealing with young clients. There was also an increase in instances where they were found to be using easy language, making clients understand and being nonjudgmental. In contrast, the behaviour of MOs in the control district at endline was less client-friendly on most of these parameters than at baseline (Figures 4 and 5).

b. Management of Specific Conditions

The study also attempted to assess, through the observations of MO-client interactions, the manner in which MOs dealt with young female clients in terms of assessing, classifying and managing the conditions they presented in order to diagnose and treat.

The observations included assessing MOs' practices related to four elements: assessment of cases, pre-examination explanations and physical examination, management of cases, and education of clients. These elements were observed for each of the three conditions.

Several indicators were observed for each element when the MO dealt with a client. For example, for vaginal discharge cases the "assessment of the complaint" had 10 observation indicators, "pre-examination explanations and physical examination" had 13 and "case management" had 14 observation indicators.

Cases of Vaginal Discharge

The study team recorded whether the MO asked the client about the type of vaginal discharge and other signs and symptoms; explained the process that would be followed during the physical examination; assured the client there was no cause to worry; recommended additional tests if needed; correctly diagnosed the case; and explained the diagnosis, cause and management of the problem, including its prevention in future. In the intervention district, 36 cases of vaginal discharge were observed at baseline and 34 at endline; the corresponding numbers in the control district were 39 and 32.

Assessment of the Complaint

The study showed that the training of MOs at the intervention district appeared to have had positive effects on their interactions with clients experiencing vaginal discharge as more MOs at endline made an effort to understand the complaint by enquiring about the colour, consistency and smell of the discharge (Table 12). Given the small number of observations, the increase was not statistically significant.

In the control district, while it seemed routine practice at baseline to enquire about the colour and consistency of discharge (85 percent of cases), there was a surprising decline in this practice at endline. We do not have a plausible reason for this, other than the possibility that work pressure or other seasonal duties at the PHCs prevented MOs from spending time exploring these symptoms.

TABLE 12

VAGINAL DISCHARGE - ASSESSMENT

| History taking | Intervention District (%) | | Control District (%) | |
|---|---------------------------|----------------|----------------------|----------------|
| | Baseline (n=34) | Endline (n=36) | Baseline (n=39) | Endline (n=32) |
| MO strove to understand the complaint by asking | | | | |
| About colour and consistency of discharge | 69 | 85 | 85 | 72 |
| If the discharge is foul smelling | 61 | 74 | 69 | 69 |
| MO tried to discover if there were related symptoms and signs by asking about... | | | | |
| Pain, itching, or burning | 83 | 85 | 82 | 63 |
| Pain in the lower abdomen | 69 | 74 | 67 | 66 |
| Pain and increased frequency of passing urine | 47 | 41 | 46 | 53 |
| Any sores/ulcers/vesicles or groin swelling | 22 | 35 | 23 | 16 |
| Local skin infection or skin trauma | 19 | 3 | 31 | 6 |
| Any fever | 42 | 18 | 31 | 6 |
| MO asked about other health problems | 61 | 56 | 49 | 31 |

The assessment of vaginal discharge cases included MOs' efforts to discover related symptoms and signs. The practice of asking about pain/itching/burning and lower abdominal pain was common across both sites, and further increased at endline in the intervention district. However, the control site showed a slight decline in these practices from baseline to endline. The practice of enquiring about other symptoms such as urinary problems, fever, or genital ulcers was sporadically followed in both districts and did not appear to be influenced by the training in the intervention district.

The observation on whether the MO asked the client about other health problems showed a decline in both districts from baseline to endline. In the intervention district in particular, it seemed as if MOs felt that since they had begun asking case related questions, it was not necessary to ask about other related health problems.

Pre-examination Explanations and Physical Examination

At endline there were several more cases in the intervention district where MOs explained the need for a physical examination or a genital/pelvic examination (Table 13). Surprisingly, the proportion of MOs in the control district who explained the need for these examinations to their clients declined sharply at endline.

TABLE 13

VAGINAL DISCHARGE – PRE-EXAMINATION EXPLANATIONS AND PHYSICAL EXAMINATION

| Indicators | Intervention District (%) | | Control District (%) | |
|---|---------------------------|----------------|----------------------|----------------|
| | Baseline (n=34) | Endline (n=36) | Baseline (n=39) | Endline (n=32) |
| Pre-examination Explanations | | | | |
| MO explained the need for | | | | |
| Physical examination | 14 | 27 | 26 | 6 |
| Genital/pelvic examination | 11 | 21 | 28 | 6 |
| Physical Examination | | | | |
| MO examined the client appropriately | | | | |
| Did physical examination | 17 | 15 | 21 | 9 |
| Did genital/pelvic examination | 8 | 18 | 15 | 13 |
| MO made efforts to make the client feel comfortable during the examination | | | | |
| Chaperone or health worker present during exam | 29 | 19 | 5 | 16 |
| Maintained auditory and visual privacy | 14 | 27 | 23 | 13 |

The findings show that MOs carried out physical or pelvic examinations on very few adolescent clients in both districts, both at baseline and endline. In the intervention district, while physical examinations declined marginally, the proportion of pelvic examinations increased between baseline and endline (Table 13). The data reflects the particular needs of the clients at the time of the surveys. The change is not statistically significant, possibly due to the small sample size.

More importantly, compared to the baseline, at endline many more MOs in the intervention district made an effort to put the client at ease and make her feel comfortable during the examination by maintaining auditory and visual privacy. There were fewer instances, in the intervention district, when a chaperone or other health worker was present inside the room during examination and more instances of MOs making an effort to maintain auditory and visual privacy (Table 13). Results in the control district were not as positive, as at endline there was a decline in the number of MOs who conducted physical or pelvic exams, or made the client feel comfortable during the examination, compared to baseline.

Case Management/Treatment

There were no observable differences in MOs' case management practices from baseline to endline in both districts (Table 14).

TABLE 14

VAGINAL DISCHARGE – CASE MANAGEMENT

| Indicators | Intervention District (%) | | Control District (%) | |
|---|---------------------------|----------------|----------------------|----------------|
| | Baseline (n=34) | Endline (n=36) | Baseline (n=39) | Endline (n=32) |
| MO communicated and explained provisional diagnosis and its causes | | | | |
| Communicated the diagnosis to client | 94 | 94 | 92 | 100 |
| Explained the diagnosis and current condition | 41 | 41 | 39 | 9 |
| Explained possible causes of the infection | 31 | 41 | 39 | 13 |
| MO discussed treatment options and helped client make an informed choice | | | | |
| Discussed possible treatment options | 33 | 32 | 23 | 13 |
| Helped client choose from among treatment options | 14 | 12 | 21 | 6 |
| MO explained the treatment | | | | |
| Explained medicine dosage, course and follow up | 64 | 65 | 54 | 41 |
| Need to complete treatment as prescribed | 67 | 56 | 44 | 28 |

In most cases (94 percent in the intervention district and 92-100 percent in the control district) MOs communicated the diagnosis to the clients. The proportion of MOs who explained the possible cause of infection in the intervention district increased at endline from 31 to 41 percent.

However, there was hardly any change in the number of cases between baseline and endline in which MOs explained the treatment to clients (around one-thirds) and discussed possible treatment options with their clients (around two-thirds) (Table 14).

The data also suggests no change in MOs' explanations to clients on dosages, duration of treatment and need to comply with the prescribed treatment. There were no significant differences due to the small sample size.

Giving Clients Information

At baseline, clients were rarely educated on issues such as hygiene and treatment for partners.

TABLE 15

VAGINAL DISCHARGE – INFORMATION TO CLIENTS

| Indicators | Intervention District (%) | | Control District (%) | |
|--|---------------------------|----------------|----------------------|----------------|
| | Baseline (n=34) | Endline (n=36) | Baseline (n=39) | Endline (n=32) |
| MO provided client with information. Explanations given that... | | | | |
| Vaginal discharge can be normal or abnormal | 39 | 38 | 39 | 9 |
| If left untreated it may lead to PID, STI, infertility, etc. | 8 | 18 | 8 | 6 |
| The client may have an STI | 3 | 15 | 8 | 3 |
| Partner needs to know of condition, and receive treatment | 14 | 24 | 18 | 6 |
| Need to avoid sex or use condoms until cured | 6 | 21* | 13 | 9 |
| Correct use of condom every time will protect her from repeated infections | 0 | 15 | 10 | 3 |
| Genital hygiene was essential | 39 | 62* | 33 | 28 |
| MO discussed problems in adhering to advice/ treatment | 8 | 12 | 10 | 3 |

*p<0.05

At endline, a larger proportion of MOs in the intervention district (compared to baseline) provided information to clients on the consequences of untreated symptoms, and educated them on the need for partner treatment, abstinence or use of a condom until cured ($z=1.95$, $p<0.05$), and maintenance of general hygiene ($z=1.95$, $p<0.05$) (Table 15). These changes were positive and statistically significant. As observed in most cases throughout the observation data, the control district showed a decline in indicators related to educating clients at endline compared to baseline.

Overall, the observations of vaginal discharge cases suggest that MOs' practices in the intervention district for assessing their clients' conditions improved for most elements, except for MOs looking for skin infection/trauma and asking about fever. While practices about pre-examination explanations and during physical examination improved in the intervention district, they declined in the control district from baseline to endline. Practices related to managing/ treating vaginal discharge clients did not show any improvements in either district. In the intervention district, MOs were observed to provide more information to clients, especially on abstinence and general hygiene; the control district showed a decline on all information indicators from baseline to endline.

Cases with Menstrual Problems

The number of clients observed with menstrual problems ranged from 28 at baseline to 31 at endline in the intervention district. The assessment dealt with history taking by MOs about the onset of menarche, details of the menstrual cycle, last menstrual period (LMP), history of contraceptive use, patterns of bleeding and associated signs, symptoms like lower abdominal pain, etc.

Assessment of the Complaint

The findings on the assessment of cases with menstrual problems are presented in two tables: questions posed to all clients irrespective of the type of menstrual problem (Table 16); and assessment cases with irregular periods (five indicators) (Table 17). There were too few cases presenting the other two conditions – painful menstruation and prolonged menstruation – so that data has not been presented in the report.

TABLE 16

MENSTRUAL PROBLEMS - COMMON ASSESSMENT

| History taking | Intervention District (%) | | Control District (%) | |
|--|---------------------------|----------------|----------------------|----------------|
| | Baseline (n=28) | Endline (n=31) | Baseline (n=28) | Endline (n=28) |
| MO asked about: | | | | |
| Age of onset of menstruation | 71 | 90* | 89 | 68 |
| Menstrual cycle (days, interval, etc.) | 89 | 94 | 82 | 89 |
| LMP (last menstrual period) | 79 | 100 | 79 | 82 |

*p<0.05

The findings on common questions asked to assess menstrual problems showed notable improvements in the intervention district from baseline to endline. There was an increase from baseline to endline in the proportion of clients who were asked about their age at the onset of menstruation ($z=1.84$, $p<0.05$), duration of the menstrual period, intervals between cycles and the last menstrual period (Table 16).

TABLE 17

MENSTRUAL PROBLEMS - CONDITION-WISE ASSESSMENT

| Assessment of Irregular Period Cases Measures taken by MO... | Number of Clients | | | |
|---|-----------------------------------|-------------------|------------------------------|-------------------|
| | Intervention District (number) | | Control District (number) | |
| | Baseline (n=13) | Endline (n=19) | Baseline (n=16) | Endline (n=15) |
| MO strove to understand the presenting complaint by asking | | | | |
| If periods are regular | 10 | 17 | 13 | 11 |
| How many days bleeding lasts | 9 | 19 | 11 | 9 |
| For minimum and maximum number of days of bleeding | 6 | 17 | 8 | 8 |
| For spotting/bleeding between periods | 5 | 13 | 8 | 6 |
| MO strove to find related symptoms and signs | | | | |
| Asked about current contraceptive use | 4 | 8 | 3 | 3 |

Findings on the assessment of irregular period cases (although few in number) show that more MOs tried to understand the presentation at endline compared to baseline in the intervention district. There were also more MOs in the intervention district than in the control district who asked clients questions related to their menstrual cycle.

Pre-examination Explanations and Physical Examination

The findings suggest a greater level of interaction and improved pre-examination explanations. In the intervention district, several more clients at endline compared to baseline were given explanations about the need for a physical examination ($z=2.28$, $p<0.05$), and reassured that there was nothing to worry about prior to the exam (Table 18).

TABLE 18

MENSTRUAL PROBLEMS – PRE-EXAMINATION EXPLANATIONS AND PHYSICAL EXAMINATION

| Indicators | Intervention District (%) | | Control District (%) | |
|---|---------------------------|----------------|----------------------|----------------|
| | Baseline (n=28) | Endline (n=31) | Baseline (n=28) | Endline (n=31) |
| Pre-examination Explanations | | | | |
| MO reassured client that she had nothing to worry about | 39 | 45 | 36 | 14 |
| MO explained the need for a | | | | |
| Physical examination | 7 | 29* | 18 | 0 |
| Genital/pelvic examination | 4 | 7 | 18 | 0 |
| Physical Examination | | | | |
| MO examined the client appropriately | | | | |
| Checked pulse rate and skin and for swelling on neck | 29 | 39 | 18 | 14 |
| Looked for spots/patches on skin | 21 | 13 | 25 | 0 |
| Felt lower abdomen to check for swelling/tenderness | 21 | 16 | 29 | 0 |
| Conducted physical/pelvic examination | 4 | 16 | 7 | 0 |
| MO made efforts to make client feel comfortable during the examination | | | | |
| Maintained auditory and visual privacy | 36 | 26 | 14 | 0 |

*p<0.05

In the intervention district, the proportion of cases where the MO checked pulse rates and skin for swellings on the neck and conducted physical examinations increased, while cases in which the MO looked for spots/patches on the skin and felt the lower abdomen declined. There was also a decline in the proportion of cases in which MOs did not maintain auditory and visual privacy when examining clients with menstrual problems (Table 18). It is difficult to ascribe causes for the decline, but it is probably determined by the case load, i.e., client needs at the time and the problems they presented.

The control district showed a decline between baseline and endline in the proportion of cases where MOs examined the client appropriately or took care to make the client comfortable during the examination.

Case Management/Treatment

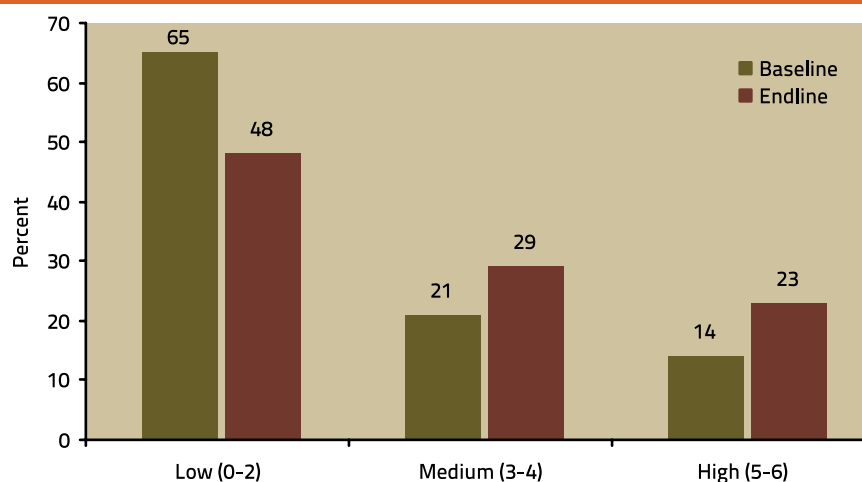
At endline MOs in the intervention district performed remarkably better in terms of communicating, discussing and explaining treatment options to adolescents with menstrual problems, than did their counterparts in the control site (Table 19). However, given the small number of observations, the differences were not statistically significant.

TABLE 19
MENSTRUAL PROBLEMS - CASE MANAGEMENT

| Indicators | Intervention District (%) | | Control District (%) | |
|---|---------------------------|----------------|----------------------|----------------|
| | Baseline (n=28) | Endline (n=31) | Baseline (n=28) | Endline (n=28) |
| MO communicated their provisional diagnosis and its complications | | | | |
| Explained the diagnosis and current condition | 43 | 52 | 29 | 25 |
| Explained possible causes of infection | 43 | 42 | 32 | 18 |
| MO discussed treatment options and helped client make an informed choice | | | | |
| Discussed possible treatment options | 21 | 23 | 25 | 4 |
| Helped client choose from among treatment options | 4 | 10 | 18 | 0 |
| MO explained the treatment | | | | |
| Medicine dosage, course and follow-up treatment | 57 | 65 | 61 | 32 |
| Need to complete treatment as prescribed | 39 | 58 | 39 | 29 |

In the intervention site, more MOs at endline than at baseline communicated to clients their diagnosis and their current condition. Discussions on possible treatment options and helping clients choose from among these also increased from baseline to endline. A larger number of MOs explained the dosage, course and follow-up of the treatment and need to comply with the treatment as prescribed (Table 19).

In the control site, the proportion of MOs communicating these details to their clients declined from baseline to endline.

FIGURE 6**MENSTRUAL PROBLEM MANAGEMENT SCORE - INTERVENTION DISTRICT**

A composite index was created based on indicators in Table 19, and the scores were categorised into low, medium and high. The findings suggest an improvement in case management practices among MOs at the intervention district between baseline and endline, as the proportion of MOs with medium and high scores increased from baseline to endline (Figure 6).

Giving Clients Information

At endline, MOs in the intervention district performed notably better than their counterparts in the control site in terms of explaining and discussing details of their condition with clients. More MOs explained the diagnosis and current condition, reassuring clients that their problems could be normal at menarche or in the early days of contraceptive use. Improvements were also significant in the proportion of cases in which MOs discussed genital hygiene with their clients ($z=2.31$, $p<0.05$). However, it appears that at endline fewer MOs invited clients to ask questions (Table 20). In the control district, there was a decline between baseline and endline in the proportion of cases in which MOs provided their clients with information or discussed the problem in detail with them.

TABLE 20

MENSTRUAL PROBLEMS - GIVING INFORMATION

| Indicators | Intervention District (%) | | Control District (%) | |
|---|---------------------------|----------------|----------------------|----------------|
| | Baseline (n=28) | Endline (n=31) | Baseline (n=28) | Endline (n=28) |
| MO provided the client with information. Explanations given that... | | | | |
| Diagnosis and current condition | 43 | 52 | 29 | 25 |
| Menstrual problem may be normal at menarche or in early months of contraceptive use | 21 | 29 | 25 | 14 |
| Discussed genital hygiene | 18 | 45* | 39 | 29 |
| MO discussed problems in adhering to advice/treatment | 4 | 16 | 14 | 7 |
| MO asked if the client had any questions | 21 | 13 | 14 | 7 |

*p<0.05

Overall, the findings suggest that the training of MOs in the intervention district had a positive impact in terms of their dealing with clients with menstrual problems. The assessment of practices regarding addressing menstrual problems showed significant improvements in terms of the proportion of MOs determining age of onset of menstruation and Last Menstrual Period (LMP). Although significantly more clients received a physical examination, practices during the examination - such as MOs maintaining privacy, looking for spots or patches, feeling the lower abdomen, etc. - showed a decline. However, the provision of relevant information on a client's condition and treatment improved at endline in the intervention district. In contrast, the proportion of MOs in the control district following good practices on assessment, examination, management and information practices declined from baseline to endline.

Cases Related to Antenatal Care (ANC)

Practices pertaining to Antenatal Care (ANC) services were assessed for indicators such as asking about obstetric history, LMP, signs and symptoms of pregnancy, and systemic health problems; informing the client about the Expected Date of Delivery (EDD); explaining the process that would be followed and examinations that the client would have to undergo; conducting physical, abdominal, breast and pelvic examinations; advising on laboratory tests; providing the recommended package of antenatal services; and educating clients about care during pregnancy. Results indicate that the practices of MOs in the intervention district on managing ANC cases improved notably from baseline to endline.

Assessment of the ANC Client

The findings show that practices relating to assessing ANC cases improved from baseline to endline in the intervention district, but declined in the control district.

TABLE 21

ANTENATAL CARE - ASSESSMENT OF COMPLAINT

| History taking | Intervention District (%) | | Control District (%) | |
|---|---------------------------|----------------|----------------------|----------------|
| | Baseline (n=34) | Endline (n=36) | Baseline (n=39) | Endline (n=32) |
| MO strove to understand the presenting complaint, by asking for... | | | | |
| Number of pregnancies till date | 94 | 100 | 90 | 83 |
| Period since last birth/abortion | 61 | 80* | 70 | 50 |
| Regular periods started after last birth/abortion | 28 | 68* | 40 | 17 |
| Asked for LMP | 72 | 100* | 70 | 58 |
| MO strove to find out whether there were related symptoms and signs by asking about... | | | | |
| Signs/symptoms of pregnancy | 94 | 92 | 75 | 75 |
| Symptoms of any health problem | 72 | 76 | 65 | 46 |
| MO asked about other health problems | | | | |
| Family history of systemic illness | 11 | 8 | 15 | 8 |
| Previous obstetric history | 33 | 36 | 45 | 17 |

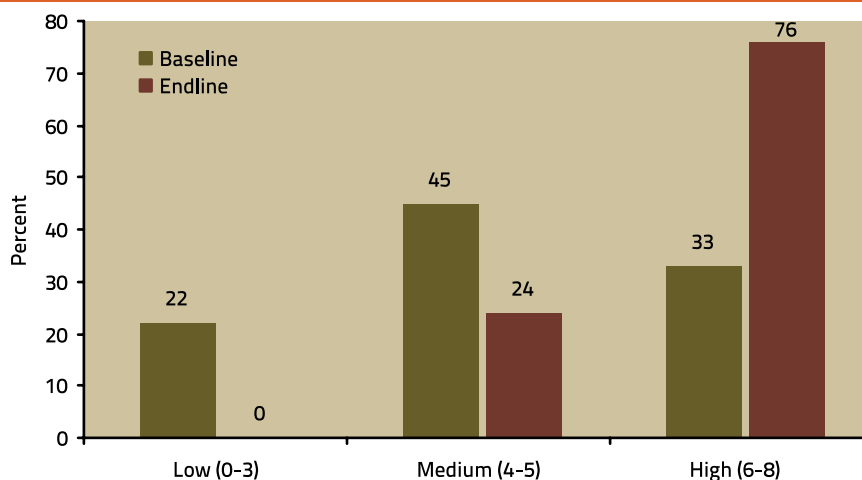
*p<0.05

At baseline MOs in the intervention district rarely (28 percent) asked clients when their regular periods resumed after their last birth or abortion, while at endline this increased to 68 percent. Interestingly, at baseline 28 percent of the MOs in the intervention district asked clients about their LMP, which is one of the most critical questions to determine the gestational age and expected date of delivery. By endline MOs asked all their clients about the number of pregnancies and LMP (Table 21). All these results are statistically significant.

ANC Assessment Score: An index was created to examine changes in the assessment of ANC cases on the basis of indicators presented in Table 21, which were then categorized as low, medium and high. Figure 7 shows a significant increase in the share of MOs that obtained high assessment scores – from 33 percent at baseline to 76 percent at endline ($z=3.94$, $p<0.05$), and no cases at endline where the overall ANC assessment quality was low.

FIGURE 7

ANTENATAL CARE ASSESSMENT - INTERVENTION DISTRICT



Pre-examination Explanations and Physical Examination

The number of cases where MOs explained the need for a physical/pelvic examination increased at endline in the intervention district compared to the baseline. This was not statistically significant. The control district showed a decline on this indicator (Table 22).

Findings on the examination of ANC cases showed an improvement from baseline to endline in the intervention district, while they deteriorated in the control district.

In the intervention district, very few MOs at baseline (6 percent) conducted an abdominal examination to assess foetal health and fundal height, but at endline the proportion of cases where this was done went up to 48 percent ($z=3.59, p<0.05$). The instances when MOs maintained auditory and visual privacy during examination also increased notably from baseline to endline (Table 22). Also, significantly more cases were observed at endline (44 percent) where MOs maintained privacy during examination of antenatal care clients, compared to 17 percent at baseline ($z=1.98, p<0.05$). There were no significant improvements in the control district (Table 22).

TABLE 22

ANTENATAL CARE - PRE-EXAMINATION EXPLANATIONS AND PHYSICAL EXAMINATION

| Indicators | Intervention District (%) | | Control District (%) | |
|---|---------------------------|----------------|----------------------|----------------|
| | Baseline (n=18) | Endline (n=25) | Baseline (n=20) | Endline (n=24) |
| Pre-Examination Explanations | | | | |
| MO reassured the client there was nothing to worry about | 50 | 48 | 40 | 21 |
| MO explained the need for a physical exam | 17 | 36 | 20 | 17 |
| Physical Examination | | | | |
| MO appropriately examined the client | | | | |
| Did general examination-height, weight, blood pressure etc. | 56 | 72 | 55 | 42 |
| Examined abdomen to assess fundal height, foetal lay, foetal heart beat etc. | 6 | 48* | 35 | 38 |
| Examined breast for lumps or tenderness | 6 | 8 | 15 | 13 |
| Did pelvic examination | 0 | 8 | 5 | 4 |
| MO made efforts to make the client feel comfortable during the examination | | | | |
| Maintained auditory and visual privacy | 17 | 44* | 30 | 8 |

*p<0.05

Case Management/Treatment

Practices related to explaining the pregnancy and client's condition improved from baseline to endline in the intervention district (Table 23).

TABLE 23

| ANTENATAL CARE - CASE MANAGEMENT | | | | |
|--|---------------------------|----------------|----------------------|----------------|
| Indicators | Intervention District (%) | | Control District (%) | |
| | Baseline (n=18) | Endline (n=25) | Baseline (n=20) | Endline (n=24) |
| MO communicated their provisional diagnosis and its complications | | | | |
| Explained the gestation and status of pregnancy | 83 | 100 | 90 | 96 |
| MO discussed treatment options and helped clients make an informed choice | | | | |
| Gave iron and folic acid supplements | 89 | 92 | 80 | 79 |
| Gave tetanus toxoid injection | 44 | 80* | 55 | 63 |

While providing iron and folic acid (IFA) tablets was a common practice in both districts, the provision of tetanus toxoid injections to ANC clients increased significantly in the intervention district at endline ($z=2.47$, $p<0.05$) over the baseline. While there was an increase in this practice in the control district also, it was not significant.

Giving Clients Information

The findings show that practices on providing clients with information on nutrition, rest and danger signs, discussing problems related to adhering to the treatment, and giving clients a chance to ask questions declined from baseline to endline in the intervention district (Table 24). The reasons for such a decline are not evident.

TABLE 24

| ANTENATAL CARE - INFORMATION TO CLIENTS | | | | |
|---|---------------------------|----------------|----------------------|----------------|
| Indicators | Intervention District (%) | | Control District (%) | |
| | Baseline (n=18) | Endline (n=25) | Baseline (n=20) | Endline (n=24) |
| MO provided client with information | | | | |
| Counselled the client on diet, rest, danger signs, etc. | 83 | 64 | 45 | 33 |
| MO discussed problems in adhering to advice/ treatment | 22 | 20 | 20 | 21 |
| MO asked client if she had any questions | 61 | 24 | 25 | 35 |

Overall, the findings indicate that the training had a positive effect in terms of effectively managing clients with all three presentations.

Objective 2: Training on the Orientation Programme and the Adolescent Job Aid will lead to increased perception of clients that they had a positive clinical encounter with the MO, increased recall on information provided, increased intention to comply with the advice provided, and increased willingness to return to the MO for future health needs.

The second objective of the study was to understand the effect of training on clients' perceptions of the quality of and their satisfaction with the consultations. The young clients seeking care for the three presenting conditions - menstrual disorder, vaginal discharge and antenatal care – were interviewed after meeting with the MO, in exit interviews. Analysis of the data includes exit interviews for only those clients who consulted with those MOs interviewed both at baseline and endline (28 MOs each in each district). A total of 154 and 140 exit interviews were conducted in the intervention district during baseline and endline, respectively, and 140 exit interviews each were conducted in the control district during baseline and endline.

Objective 2a: Clients Reporting a Positive Clinical Visit with MO

The study explored the nature of client interaction with MOs in the PHC, by asking them whether the MO met them alone or with the person accompanying them, and about their experiences related to the physical examination and the advice or treatment given for the health condition they were experiencing.

Interaction with Chaperone

For MOs, offering to talk to chaperones was not considered a priority at baseline; the indicator for MOs' engagement with chaperones improved in the intervention district at endline and was also much higher than in the control district. In the intervention district, the instances when the MO offered to talk to the chaperone increased from 39 percent at baseline to 85 percent at endline ($z=9.25, p<0.05$) (Table 25).

TABLE 25

| INTERACTION WITH CHAPERONE | | | | |
|--|---------------------------|-----------------|----------------------|-----------------|
| Interaction with chaperone | Intervention District (%) | | Control District (%) | |
| | Baseline (n=154) | Endline (n=140) | Baseline (n=140) | Endline (n=140) |
| Met in the presence of accompanying person | 66 | 59 | 68 | 67 |
| MO offered to talk to chaperone | 39 | 85* | 46 | 26 |

* Significant difference between baseline and endline ($p<0.05$)

Pre-examination Explanations, Examination, and Counselling

The findings showed that only a few women underwent a physical/pelvic examination – 21 and 26 in the intervention district and 20 and 19 in the control district, respectively, at baseline and endline.

A significant improvement was noticed in the intervention district from baseline to endline (43 percent to 65 percent) in terms of clients being examined in a separate room ($z=1.51$, $p<0.10$). This shows that MOs made an effort to provide more space and privacy to their young clients (Table 26). Significant improvements were also observed in this indicator in the control district.

TABLE 26
PRIVACY MAINTAINED DURING PHYSICAL EXAMINATION

| Privacy indicators | Intervention District (%) | | Control District (%) | |
|---|---------------------------|----------------|----------------------|----------------|
| | Baseline (n=21) | Endline (n=26) | Baseline (n=20) | Endline (n=19) |
| Examined in a separate room | 43 | 65* | 50 | 72* |
| MO explained process prior to examination | 52 | 73 | 75 | 83 |
| MO explained result of the examination | 28 | 62* | 55 | 61 |

* Significant differences between baseline and endline ($p<0.10$)

In both districts, there was a noteworthy increase in the instances where MOs examined clients in a separate room. At endline, more clients (73 percent) in the intervention district reported that the MO had explained the process that would be followed during the clinical examination, but the increase was not significant. However, the percentage of clients that noted that the provider explained the results of the examination improved in the intervention district significantly (from 28 percent to 62 percent), ($z=2.43$, $p<0.05$). This proportion was already high in the control district at baseline, which increased marginally at endline. The findings suggest that in the intervention district MOs' sensitivity to client privacy and communication with their client improved after the training.

FIGURE 8
EXPERIENCE REGARDING PHYSICAL EXAMINATION - INTERVENTION DISTRICT

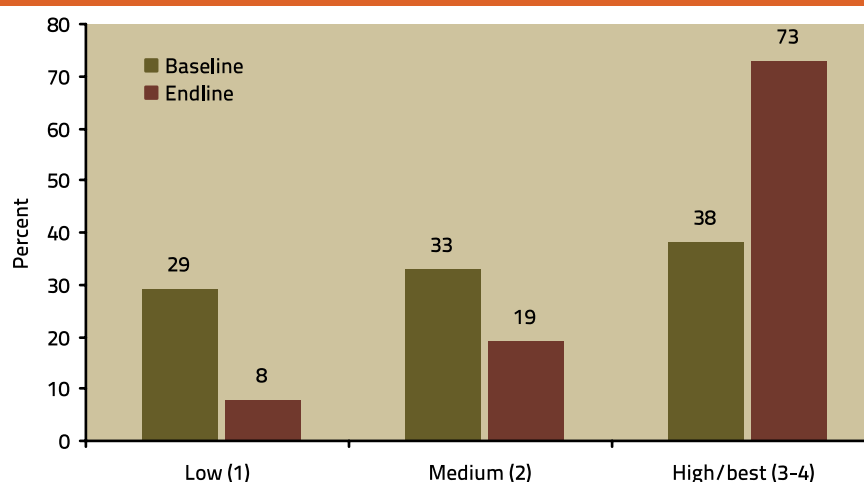
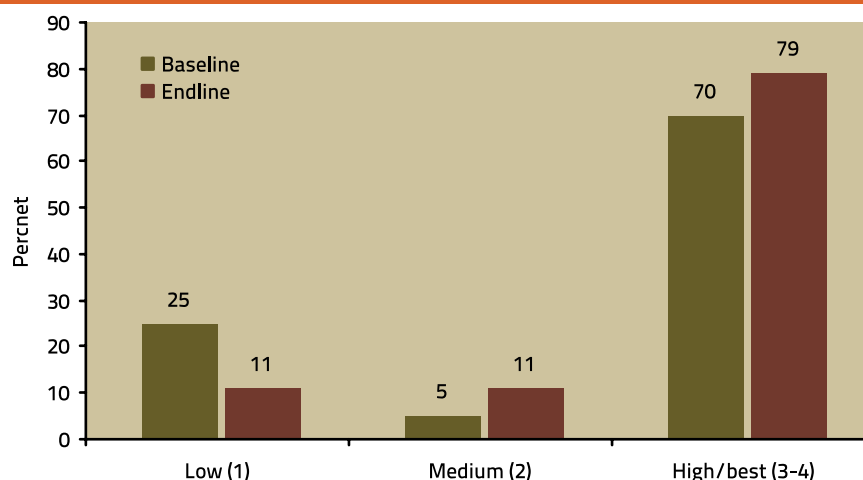


FIGURE 9

EXPERIENCE REGARDING PHYSICAL EXAMINATION - CONTROL DISTRICT



Index of Client’s Experiences of Clinical Examination: Based on the overall results from the client perceptions of the clinical examinations, an index of client experience was developed. The index shows statistically significant increases among the high or ‘best’ level of clinical examinations in the intervention district from baseline to endline ($z=3.5, p<0.05$). Similar increases were also evident in the control district, but these changes were not statistically significant (Figures 8 and 9).

Reflections on Exchanges with the MO

One of the key indicators for this objective was to assess if clients felt the provider had made an effort to maintain a positive and supportive environment for the visit and whether privacy was maintained during their visit. In addition, questions were also asked to explore their satisfaction with the visit in terms of having their queries answered, receipt of desired information and attention given by the MO.

Privacy: Significantly more clients (76 percent) in the intervention district at endline reported that privacy was maintained, compared to the baseline (60 percent) ($z=2.98, p<0.05$). The control site proportions were as high as the endline intervention site proportion, with a marginal increase in clients reporting that privacy was maintained during their interactions. The reason for a relatively high score at baseline in the control district is not clear.

The number of clients who believed their consultation with the MO would be kept confidential improved significantly in the intervention site from baseline to endline ($z=2.15, p<0.05$). The control site, however, showed no improvement in this indicator between the two rounds but its values were already higher than the intervention site at baseline.

At endline in the intervention site, a majority of clients were satisfied that the MO maintained privacy. This improvement is noteworthy in the context of a rural PHC, which is usually busy and often the next in-line patients wait inside the doctor’s room for their consultation.

Receiving satisfactory responses and attention from MO: There was a slight increase in the proportion of clients from baseline (92 percent) to endline (94 percent) in the intervention district reporting that they received the desired information. The proportion was already extremely high at baseline, at more than 90 percent. The control district, in contrast, showed a decline on this indicator. In the intervention district, significantly more clients at endline asked the MOs questions ($z=3.40$, $p<0.05$). At endline, a significantly higher proportion of clients in the intervention district also said that their concerns were attended to by MO (60 percent at baseline versus 90 percent at endline) ($z=6.37$, $p<0.05$) (Table 27). There was no change in the control site in clients asking the MOs questions, but concerns attended to by MOs showed a significant positive change even in the control site ($z=7.95$, $p<0.05$).

TABLE 27

EXPERIENCES WITH MOs

| Clients experiences | Intervention District (%) | | Control District (%) | |
|------------------------------|---------------------------|-----------------|----------------------|-----------------|
| | Baseline (n=154) | Endline (n=140) | Baseline (n=140) | Endline (n=140) |
| Received desired information | 92 | 94 | 99 | 92 |
| Raised questions to the MO | 13 | 29* | 4 | 8 |
| Concerns were attended by MO | 60 | 90* | 40 | 82* |

* Significant differences between baseline and endline ($p<0.05$)

Index of Positive Clinical Visit: An index representing clients' positive clinical encounter was created, based on clients' perception of MOs responding to their queries and doubts and maintaining privacy and confidentiality.

FIGURE 10

PERCEPTION OF POSITIVE CLINICAL EXPERIENCE - INTERVENTION DISTRICT

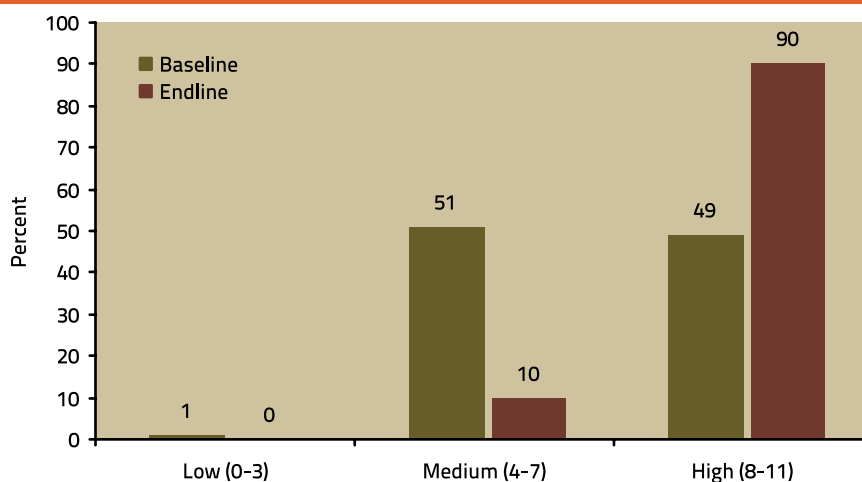
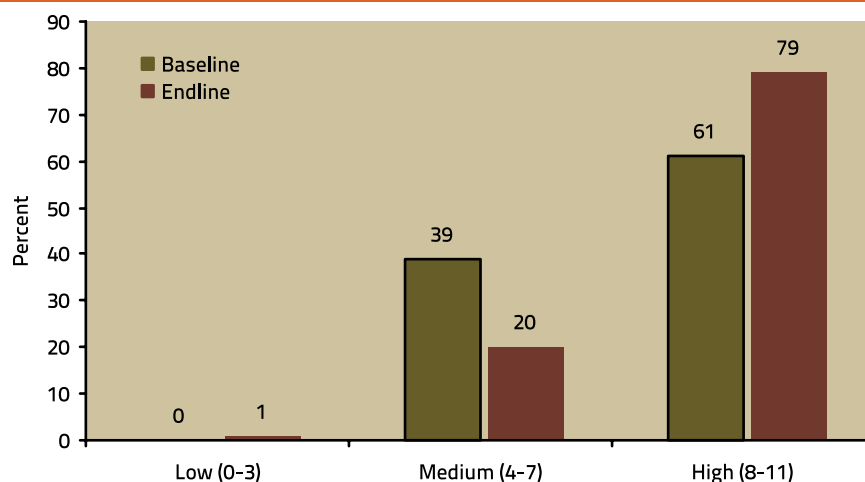


FIGURE 11

PERCEPTION OF POSITIVE CLINICAL EXPERIENCE - CONTROL DISTRICT



The indices for both districts show improvements from baseline to endline in clients' positive clinical encounter with MOs. In the intervention district, the high level of positive clinical visits significantly improved from 49 percent at baseline to 90 percent at endline (Figures 10 and 11), which was far higher than the overall improvements in the control district.

Objective: 2b: Clients can Recall the Information Provided by the MO

Clients' recall of information was measured to assess the level and quality of their interactions with the MO. The questions asked related to clients' recall of the manner in which the MO talked to them and if they covered components of HEADS - if the MO shared information on the diagnosis, explained possible causes of the problem, and described the treatment and follow-up required.

The study explored whether clients recalled the MOs' diagnosis of the problem, cause of the problem and medical treatment prescribed - including partner treatment, care to be taken at home, and follow-up.

TABLE 28

RECALL OF INFORMATION BY CLIENT

| Categories | Intervention District (%) | | Control District (%) | |
|----------------------------|---------------------------|----------------|----------------------|----------------|
| | Baseline (n=62) | Endline (n=61) | Baseline (n=60) | Endline (n=58) |
| Menstrual disorders | (n=62) | (n=61) | (n=60) | (n=58) |
| Condition/ Diagnosis | 87 | 98 | 100 | 72 |
| Cause | 63 | 64 | 75 | 62 |
| Medical treatment | 87 | 97 | 97 | 76 |
| Care at home | 39 | 44 | 67 | 28 |
| Vaginal discharge | (n=77) | (n=63) | (n=71) | (n=73) |
| Diagnosis | 91 | 67 | 100 | 75 |
| Cause | 51 | 62 | 68 | 59 |
| Treatment | 84 | 97 | 100 | 71 |
| Partner treatment | 14 | 16 | 10 | 10 |

In the intervention district, clients' recall on causes and treatment improved from baseline to endline, indicating an improvement in MOs' explanations on the diagnosis. This was true for clients experiencing menstrual disorders but not for those with vaginal discharge, which showed a decline. Clients in the control district displayed comparatively low levels of recall at endline compared to the baseline; lower recall on partner treatment suggests that MOs probably did not cover this domain consistently with all clients (Table 28).

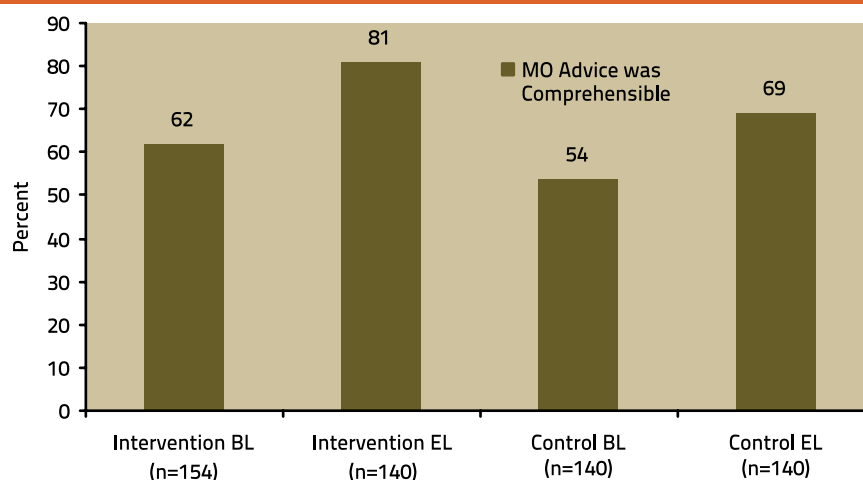
Objective: 2c: Clients Found MOs' Advice Comprehensible

The interviews also included questions on clients' perception of comprehensibility of interactions and intentions to comply with MOs' advice. Improvements from baseline to endline in the intervention district in transmitting advice and counselling to young clients show that training played a significant role in sensitizing MOs to the concerns of adolescents and familiarizing them with handling these clients.

At baseline, 62 percent of the clients in the intervention district reported having received the services and information they needed and finding the advice easy to follow. A much higher proportion (81 percent) of clients reported positively on this indicator at endline (Figure 12) ($z=3.69, p<0.05$).

FIGURE 12

MO ADVICE WAS COMPREHENSIBLE



Index of Comprehensibility of Consultation: The index of comprehensibility and clients' ease in understanding information/instructions was developed based on responses to the following:

- Degree of ease in understanding information provided by the MO
- Clients' impressions on the capability of the MO
- Client's view of the comprehensibility of the MOs' explanations

The indices show that while in the intervention district more clients at endline felt they were able to understand the MOs' information/instructions and that the explanations were comprehensible, in the control site fewer clients felt that they understood the instructions or that the MOs' explanations were comprehensible (Figures 13 and 14).

FIGURE 13

IMPRESSION OF MO CAPABILITY AND CLIENTS' EASE IN UNDERSTANDING EXPLANATIONS - INTERVENTION DISTRICT

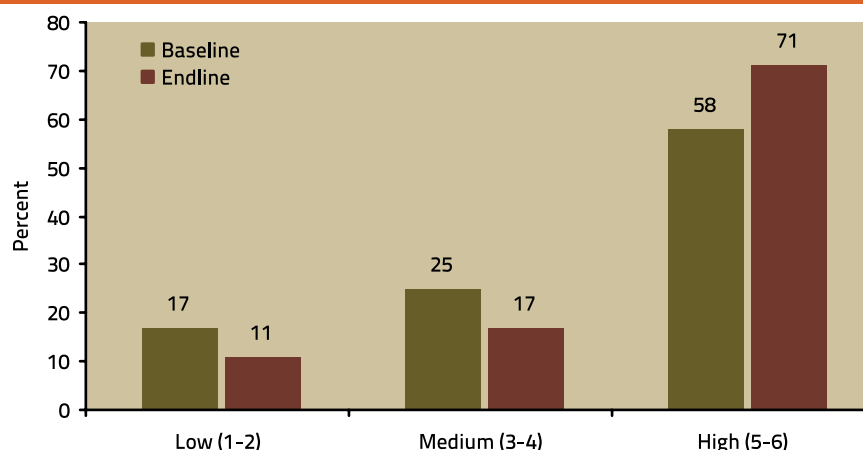
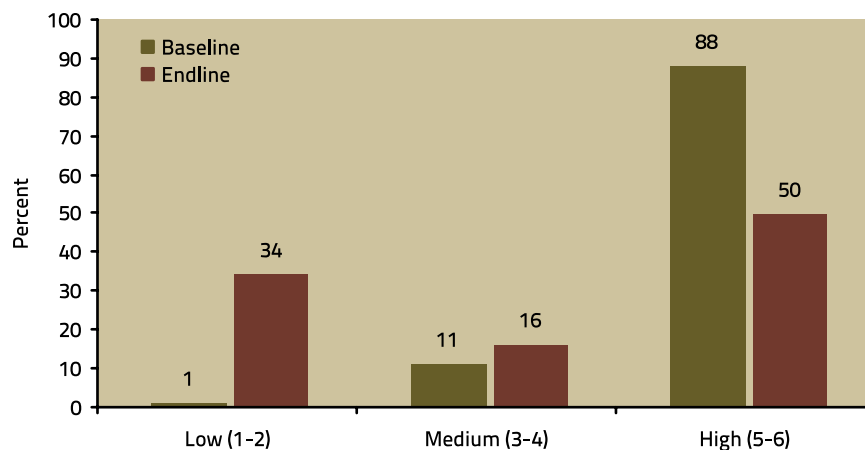


FIGURE 14

IMPRESSION OF MO CAPABILITY AND CLIENTS' EASE IN UNDERSTANDING EXPLANATIONS - CONTROL DISTRICT



DISCUSSION

The International Conference on Population and Development's Programme of Action made a strong call for adolescents to be provided with information, education, counseling and health services. It also called for their environments to be made safe and supportive (United Nations, 1995). Correspondingly, in the second half of nineties, there was a rapid increase in the sexuality education and life skills building programmes in schools and community settings (Speizer et al 2003).

Research evidence and programmatic experience contributed to the widespread recognition that while adolescents seek help from health facilities for illnesses that do not cause embarrassment, such as malaria or respiratory tract infections, they were reluctant to do so for services that are potentially embarrassing and stigmatizing such as seeking contraceptive information and services and treatment for Sexually Transmitted Infections (Hughes, McCauley 1998).

NGOs were the first to respond to this need by setting up health and counselling centres for adolescents. These centres enabled adolescents to obtain the health services they needed without having to face the many obstacles often perpetuated by health facilities geared to serving mothers and children. Initially, these efforts were led by international NGOs such as Marie Stopes International and the International Planned Parenthood Federation. However, national organizations such as the Naguru Teenage Information and Health Centre in Uganda and Profamilia in Colombia soon took up this work as well. Gradually, Ministries of Health got involved in addressing the health needs of adolescents. (WHO 1999).

Each organization that responded to this need for adolescents was highly varied in nature. They operated in a variety of settings and reached out to diverse groups of adolescents with different health services. Despite these variations, however, one mutually held key focus of their work was to provide health services in an adolescent friendly manner (Speizer et al 2003).

In 2001, WHO organized a Global Consultation on Adolescent Friendly Health Services (AFHS). The rationale for the consultation was that there were many players supporting country level work in this area and a lot of reinvention and duplication was occurring. There was a real need for shared understanding in this area based on hard evidence and the experiences and insights of front-line workers (WHO 2002). The consultation brought together representatives from UN agencies, bilateral agencies and international NGOs that were involved in this area of work. Participants from about 20 countries worked together to develop consensus statements around their work. In sum, these statements reaffirmed the need to promote adolescent health and development through complementary actions, and that all adolescents should be able to access health services relevant to their needs, and not only create nominally adolescent friendly services. They also reaffirmed that there were a number of promising approaches to increase service provision by adolescents. Finally, they reiterated the importance of developing a core package of services and adapting them to different settings, enhancing the technical competence of health care providers, and employing quality assurance methods to empower managers and health care providers to deliver client-centered care to adolescents (WHO 2002).

The Global Consultation also underlined the critical contributions that health workers needed to make. Firstly, as service providers they have a contribution to make in helping adolescents stay well through providing information/advice/counseling/clinical services, detecting,

diagnosing and managing health problems and problem behaviors, and making referrals to other providers as necessary. Secondly, they have a contribution to make as change agents in their communities by using their credibility to encourage influential community members such as educators, religious and political leaders to take adolescent health needs seriously.

In preparing for the Global Consultation it became evident that very few of the initiatives had been evaluated. In the ten years since this event, there has been steady increase both in the number of initiatives to make health services adolescent friendly and in their evaluations as successive reviews have confirmed. The primary focus of these evaluation studies has been on understanding whether: a) health facilities have become more adolescent-friendly, and, b) more adolescents are using the services offered by the health facilities and are satisfied by them. All these reviews identified competent and friendly health workers as the key to adolescent friendly health services by examining whether they had undergone training, and whether adolescents reported that they were friendly. Only one review conducted in 2007 examined whether the clinical and relational performance of health workers had improved as a result of interventions directed at them. Even that review concluded that the studies they identified were uncontrolled observational ones, and therefore likely to be prone to bias and confounding. They concluded that there was a pressing need for more studies in this area that are methodologically sound and generate valid results (Dick et al 2006; Tylee et al 2007; Napierala et al 2011)

The contribution of this study is immense in this context. It examined the role of systematic training in improving the quality of care provided by medical doctors for common reproductive health conditions that female adolescent clients present with at primary health care centers in India. Firstly, unlike many previous studies, it used a quasi-experimental design - with intervention and comparison groups - to evaluate the effect of the training intervention on outcomes related to the knowledge, attitudes and practices of health care providers. Secondly, it assessed the effect of the intervention on the knowledge, understanding, attitudes and practices of health workers - both clinical performance and relational performance, as well as on the adolescent clients' experiences of care. In this, it goes beyond many studies carried out in the past which assessed the benefits of the training (as a part of a package of interventions aimed at making health services adolescent friendly) on service utilization by adolescents, and on changes resulting from that. Thirdly, the intervention used evidence-based practices to build the knowledge, understanding and skills of health workers in a workshop setting and to help them apply these skills in the workplace setting. This was done using a combination of high quality training using tools developed and tested by WHO, working with small groups using a variety of teaching-learning methods, clearly focussing on a short list of objectives, and orienting the health workers to a desk reference tool that they could use in their every day work. Finally, the training that was provided and the training tools that were used are the same that are being used elsewhere in the state and country. Further, the health workers engaged in the study are those providing services to adolescents currently, and the facilities they operated in were not specially made adolescent friendly in any way. Therefore, the study of this intervention was an effectiveness study, not an efficacy study done in 'laboratory' conditions.

The objectives of the study were to determine if the training of MOs with the OP and AJA contributed to increased knowledge and understanding, improved attitudes and practices, better clinical and relational performance (respectful and welcoming behaviour). In addition,

the health facilities were assessed to see if their systems were adolescent-friendly within the context in which health workers were operating. The study also examined MOs' compliance with standard operating procedures. Uniquely, this study examined these aspects from the perspective of the doctors, from the perspective of the female clients, as well as objectively through observations of interactions between the health workers and their clients.

The following are highlights of the intervention outcomes that were assessed with MOs and with young female clients:

I: Assessing outcomes among MOs

There were four desired outcomes related to this objective.

1. The first outcome was increased knowledge and understanding among MOs of providing reproductive health services to young female clients, and an attempt to consider the implications of their work. This in turn was measured through four indicators:
 - On knowledge about adolescent care seeking: After the training MOs' knowledge on the proportion of clients with vaginal discharge, menstrual problems and ANC needs increased significantly. This was apparent in their more accurate estimates of adolescent health issues, which were close to data from the records on health services of Gujarat. After their training, MOs in the intervention district were more aware of key features of adolescent-friendly health services, such as maintaining privacy and confidentiality, and the need for counselling their young patients. This reflects their knowledge and understanding of adolescent health issues and their understanding of the implications of their work on adolescent health. However, MOs expressed some uncertainty about when to involve parents and family members of their adolescent care seekers, ultimately concluding that this would depend on the importance of the condition and if they felt that informing parents would help their adolescent clients receive more effective care.
2. An important indicator was that MOs have a positive attitude towards and respectful, sensitive and appropriate interactions with their young female clients.
 - Attitude towards adolescent vulnerability: After the training, MOs appeared to be far more aware of the actual cause of adolescents' health problems, with a majority shifting their views that young clients' health conditions are attributable to their own behavior, to an understanding that these problems arise due to a lack of awareness and education among their clients. Reflections from the baseline-endline comparison analysis suggest that the majority of MOs in both districts believe that a general lack of awareness about personal hygiene and the anatomy of the genital tract are the most common causes of these infections among young women.
 - Attitude towards special needs: Even prior to the training MOs were aware that their young clients had special health needs compared to adults, and therefore the training did not show any significant improvement in their attitude.
 - Attitude on maintaining privacy/confidentiality/ autonomy and consent: Although MOs appeared to be already sensitive towards providing separate and confidential services to their adolescent clients, they were significantly more aware of the need to provide privacy to their clients after attending the training. There was no improvement among MOs in the control district on taking steps to ensure privacy in the consultation room, but more MOs in the intervention district did so at endline compared to baseline.

However, MOs in the intervention areas noted that infrastructure insufficiencies, such as the lack of a separate room for consulting and the pressure of patients (which means that next-in-line patients wait their turn in the consulting room) hinder the maintenance of client privacy.

There was no difference in MOs' attitudes from baseline to endline on obtaining parental consent for treatment - most MOs viewed parental consent as not really needed for providing clients with information on prevention or treating them, although a few MOs felt that consent was necessary. At endline, significantly more MOs from the intervention district mentioned the need for female family members themselves to inform girls about menstruation, and for health workers to be sensitive to girls' menstrual health problems.

- Observations on providers' attitudes during consultations: MOs' attitudes towards clients during a clinical visit improved significantly after the training, as they made efforts to make clients feel comfortable during the consultation/examination, were more sensitive and respectful during consultations, and enquired about the client's family and lifestyle.
3. Practices that are consistent with the Adolescent Job Aid: Overall, MOs' practices improved after the training in line with the practices advocated by the AJA. Their taking of clients' general history improved, as did their interactions with their clients. They were friendlier in their interactions, asked after their family and lifestyle, and assured them of confidentiality. In the intervention district, at endline more MOs also made an effort to establish rapport with their clients, which they had rarely done earlier, by encouraging clients to ask questions, assuring them of confidentiality, explaining the process of the examination and treatment and helping them relax. The success of the training was evident from the MOs asking a significantly higher number of clients in the intervention district at endline about their marital status, duration of their problems, past history of a similar problem and past treatment for any illness.
 4. On assessing, classifying and treating young female clients presenting concerns about vaginal discharge/sexually transmitted infections, and irregular periods and clients seeking antenatal care (ANC).
 - The vaginal discharge cases were well-assessed by MOs. There was no significant difference in the intervention district from baseline to endline, but the control district showed a decline in the assessment of vaginal discharge indicators. We believe that this decline occurred due to MOs not adhering to standard clinical practices because of other pressing priorities. Pre-examination explanations to clients improved substantially from baseline to endline in the intervention district, though this was not significant; these explanations declined in the control district. MOs' efforts to provide auditory and visual privacy and ensure that the chaperone was not present during the examinations improved from baseline to endline in the intervention district. There was no significant difference in the way MOs managed/treated their clients in the intervention district from baseline to endline with respect to communicating the diagnosis, explaining the treatment, and discussing with the client the treatment options; but there were significant improvements in their providing relevant information during a consultation, on areas such as genital hygiene and the need for abstinence or use of a condom during episodes of STI/RTIs.

- Clients with menstrual problems: Significant improvements were noticed in MOs' efforts to assess the condition of clients with menstrual problems and to explain the process before a physical examination to the client. There was no notable difference in the examination of clients presenting menstrual problems, but in the intervention district MOs performed remarkably better in terms of communicating, discussing and explaining the treatment to clients. Improvements were also noticed in the provision of relevant information to clients with menstrual problems and discussions on genital hygiene increased significantly.
- Antenatal care cases: MOs' management and treatment of ANC clients improved from baseline to endline. Significantly more MOs from the intervention district strove to understand the presented condition by asking clients about their menstrual periods since the last birth or abortion, regularity of their menstrual cycles and details of their last period. More MOs explained the need for physical examinations between baseline and endline, but the change was not significant. There was also a significant increase in the tetanus toxoid injections given to these clients.

MOs reported that seeking ANC was almost universal amongst married adolescent girls, as marriage is perceived to be directly associated with fertility, and pregnancy soon after marriage is a desirable status. Therefore, care for these conditions is sought more readily. However, reticence and the stigma associated with contraception and RTIs prevent adolescent girls from seeking advice and treatment on these conditions and therefore, their actual prevalence is difficult to gauge. As an extension to this, in their exit interviews, MOs expressed their difficulties in asking young female clients, especially unmarried females, about their sexual history due to social and cultural reasons. Male MOs, in particular, find it challenging to discuss such 'sensitive' issues with young females.

A general observation on the treatment of clients with specific concerns, was that no adolescent-specific information and educational materials are available, which could be used to inform and educate clients. MOs felt that their availability would greatly help in spreading awareness on hygiene and information on specific symptoms among their young female clients, and perhaps their family members.

II: Assessing outcomes among young female clients

This objective relied on the client-provider interaction observation data and the exit interviews with clients. The assessment of the programme's effect on young female clients looked at the following outcomes.

1. Whether the client had a positive clinical encounter with the MO: A greater proportion of clients at endline felt they were able to discuss their concerns with the MO and had received the information they wanted. Exit interviews with clients also suggested that MOs' practices related to ensuring privacy, explaining the process before an examination, discussing the results of the examination, and offering to talk to the chaperone improved significantly from baseline to endline in the intervention district, which created a positive climate for clients. At endline, fewer clients said they had met the MO in the company of their chaperones, but the number of clients who said that the MO discussed the problem with the chaperone increased. Further, many more clients found their MOs to be sensitive, friendly, respectful and non-judgmental after the training than before.

2. Whether the client could recall the information provided by the MO: There was an improvement in the recall of clients exhibiting symptoms of menstrual problems, on whether the MO discussed the condition/diagnosis, cause of the problem, treatment and care needed to be taken at home. On the other hand, the recall of clients presenting vaginal discharge symptoms declined on the above parameters between baseline and endline. The control district showed a decline in recall by both types of clients.

Overall, this study demonstrates that training with the Adolescent Job Aid and the Orientation Programme on Adolescent Health brought significant improvements in medical officers' clinical performance and in their knowledge, attitudes and practices in dealing with young female clients. On the clients' side, there was a greater level of satisfaction with the consultation in terms of receiving better information and more privacy and confidentiality, greater willingness to comply with the treatment and to return in case of future health needs. The experiences that clients recounted reflected improvements in the medical doctors' practices and attitudes. Thus, this study indicates that good quality training as well as the provision of job aids can lead to a significant improvement in the delivery of services by medical providers.

While the overall results are positive, there were some areas where there was no change or where the change was statistically not significant. The lack of statistical significance in this study is largely attributable to its small sample. For instance, the improvements noticed in MOs' practices related to assessing a client's condition were not statistically significant. In some areas where there was no change between the baseline and endline in both districts - such as practices around examining clients presenting menstrual problems - this was because baseline values were very high and left little scope for improvement. There was a decline in some indicators in both the intervention and control districts especially related to practices. This is plausibly due to work pressures, or seasonal variations in both districts or a lack of consistency in applying the learning in the intervention district.

The study also brought to light some structural limitations that were identified through interviews with the MOs. First, they preferred not to refer to the AJA in front of clients, as it may convey to the clients that they lacked knowledge; they would prefer an electronic version of the AJA or having the algorithms displayed on wall charts. Second, a heavy patient load in the OPD prevents MOs from devoting sufficient time to clients. Despite this constraint our study notes an improvement in overall performance and suggests that the results would be even more significant with improved patient flow management. Third, privacy was often restricted due to the lack of a separate room as well as the large case load of patients that limits the space that could be demarcated as private. The fourth limitation is socio-cultural in nature. It stems from the fact that in India, clients prefer to go to same-sex providers for reproductive health services which often involve discussions on issues around sexuality and the need for MOs to query sexual history for a correct assessment and diagnosis. As the providers also belong to the same socio-cultural milieu, some male MOs also found it difficult to discuss sensitive issues with a female client, especially an unmarried girl. Although female AYUSH MOs are posted in most PHCs, and are often the first point of contact for female clients, they could not be included in the training as the AJA, because this cadre of providers were not institutionally authorized to provide allopathic treatment to clients and the AJA uses simple though allopathic line of case management. In future studies this challenge can be overcome through testing and comparing performance for AYUSH providers with Allopathic providers. These challenges point to the need for generating a supportive environment and

providing the necessary facilities/space that can enable health providers to improve their performance and provide higher quality services to adolescent clients. Such improvements will have positive externalities for quality of service delivery writ large. Future interventions can be planned and evaluated with some of these provisions as well.

The immense benefits of the training and provision of job aids for improving the ability and attitudes of medical doctors towards their adolescent clients was seen despite the fact that it is difficult to administer operations research in the real setting of a public health system due to frequent transfers of MOs and the high client caseloads. Similar evaluations must be conducted in several settings to facilitate greater cross-cultural learning and adaptation of the AJA and develop the accompanying guidelines for implementing the job aid in resource constrained settings. Due to the paucity of prior research, especially evaluative studies, this study makes an immense contribution to the field of adolescent health care, especially in the area of improving health service provision for adolescent clients. Recognizing that one study may not translate to policy shifts, it points to the need to strengthen the quantum of evidence and work concertedly with policy makers in India and elsewhere where these have been tested, to mainstream the AJA training for medical doctors and other cadre of health workers in a health system.

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