SUMMARY REPORT
Health Care Provider Survey in Andhra Pradesh, India
This report is part of a series of baseline surveys conducted to monitor the impact of HIV/STI prevention programmes in five states of India: Andhra Pradesh, Gujarat, Kerala, Orissa, West Bengal and in the Healthy Highways Project. The surveys conducted include behavioural surveillance surveys (BSS), STI/HIV prevalence surveys and health care providers surveys. Together these surveys follow the methods outlined by UNAIDS/WHO for evaluation and monitoring of large scale HIV/STI prevention programmes.

Surveys in each state were implemented by a variety of research organizations, NGOs, medical colleges and laboratories, in collaboration with the respective State AIDS Control Societies. Family Health International provided technical assistance in the implementation of these surveys with funding from the UK Department for International Development.

This report was compiled in 2001

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SUMMARY REPORT
Health Care Provider Survey
in Andhra Pradesh,
India

A study implemented by Blackstone Market Facts, under the guidance of Andhra Pradesh State AIDS Control Society with technical assistance from Family Health International

Funded by UK Department for International Development
MESSAGE

I am glad to note that the Impact Assessment Project is drawing to a close and is now ready to disseminate the findings of its work. The Impact Assessment Project, supported by DFID, was carried out under the guidance of NACO and the State AIDS Control Societies in the states of Orissa, West Bengal, Kerala, Gujarat, Andhra Pradesh and among highway populations. The studies, which include behavioural surveillance surveys, STI prevalence studies and health care provider survey’s, provide a mine of information for the planning, design, implementation and monitoring and evaluation of HIV/AIDS control programmes.

I must record here my appreciation for the technical support provided by the Family Health International and their constant efforts to maintain very high standards of quality. I would also like to thank NACO and the State AIDS Control Societies for their ungrudging support throughout this exercise. I hope this report will be a valuable source of information for all people working in the field of HIV/AIDS prevention in India and the world at large.

Tim Martineau
Senior Health Adviser
Sexually transmitted infections (STI) and Human Immuno-deficiency Virus (HIV) infection have emerged as important public health problems in India in recent times. HIV/AIDS is not only a public health problem but also an important developmental challenge.

A number of activities are being implemented as a part of the National AIDS Control Programme in the state of Andhra Pradesh for the prevention of HIV/AIDS. Activities center around the prevention of HIV/AIDS and include awareness generation, behaviour change communication, condom promotion, management of STIs including the training of health care providers etc. Activities are also directed towards monitoring and evaluation (including impact assessment) of the programme.

The Impact Assessment Project implemented in the state under the overall guidance of AP State AIDS Control Society (APSACS) with technical assistance of Family Health International (FHI) and funding from Department for International Development (DFID) is an important step for tracking the trend of sexual behaviour (behavioural surveillance surveys), sexually transmitted infections (STI prevalence studies) and STI case management practices [health care providers survey (HCPS)]. BSS was implemented by TNS MODE, (a market research firm), STI prevalence study was implemented among female sex workers by CHANGES (an NGO based in Kakinada) and HCPS was implemented by Blackstone Market Facts (a market research firm).

All these surveys have provided useful insights into the prevalence of STIs among female sex workers, the behaviour of certain high risk groups in the state and the manner in which STI patients are managed in health care settings. For instance, BSS revealed that male university students and female tobacco grading workers had a high level of risk behaviour, necessitating interventions.

It will be important to repeat these studies at periodic intervals to track the change in these parameters over time.

We deeply appreciate DFID’s financial support for this project.

It is expected that these reports will also be useful for agencies and individuals involved in the fight against STI/HIV/AIDS elsewhere in the country.

(Rachel Chatterjee, IAS)
President, AP State AIDS Control Society &
Principal Secretary, HM&FW Department
AP Secretariat, Hyderabad
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<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>AIDS</td>
<td>Acquired Immuno Deficiency Syndrome</td>
</tr>
<tr>
<td>Allo-govt</td>
<td>Allopathic doctors working in government health care facilities</td>
</tr>
<tr>
<td>Allo-pvt</td>
<td>Allopathic doctors employed either in private institutions or engaged in own private practice</td>
</tr>
<tr>
<td>AP SACS</td>
<td>Andhra Pradesh State AIDS Control Society</td>
</tr>
<tr>
<td>Ayur-Homeo</td>
<td>Qualified practitioners of non-allopathic medical systems such as Homeopathy, Ayurveda, Unani or Sidha</td>
</tr>
<tr>
<td>BCC</td>
<td>Behavioural change communication</td>
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<td>DFID</td>
<td>Department for International Development</td>
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<td>EI</td>
<td>Exit interviewers</td>
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<td>FHI</td>
<td>Family Health International</td>
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<td>FSW</td>
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<td>HCPS</td>
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<td>HCPs</td>
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<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
</tr>
<tr>
<td>NACO</td>
<td>National AIDS Control Organization</td>
</tr>
<tr>
<td>NGU</td>
<td>Non gonococcal urethritis</td>
</tr>
<tr>
<td>RMP</td>
<td>Registered Medical Practitioner</td>
</tr>
<tr>
<td>SP</td>
<td>Simulated patient</td>
</tr>
<tr>
<td>STI</td>
<td>Sexually transmitted infection</td>
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</table>
Executive summary

The Health Care Provider Survey (HCPS), Andhra Pradesh was conducted during November 1999 – September 2000. The purpose of this study was to collect baseline information on the quality of STI case management provided by health care providers (HCPs) in Andhra Pradesh. This study was implemented for AP State AIDS Control Society (APSACS) by Social and Environmental Research Division of Blackstone Market Facts, a market research agency.

The study was conducted in five districts of AP, which were purposefully identified in consultation with the APSACS. The health care providers (HCPs) in these districts were grouped into four categories based on their qualification and settings of their practice. Category 1 included allopathic doctors employed in any government facility, Category 2 included qualified allopathic doctors engaged mainly in private practice, Category 3 included qualified non-allopathic doctors trained in indigenous medical systems (practitioners of Ayurveda, Homeopathy, Siddha and Unani), and Category 4 included non-qualified traditional health care providers (RMPs).

The study methodology included two approaches: (a) visit to a doctor by a simulated patient (SP) followed by an exit interview of the SP by a social researcher, and (b) a structured interview of a sub-sample of above HCPs by a social researcher. In-depth discussion were held with a few HCPs on issues related to STI case management. The SP methodology was designed to observe actual practice by HCPs whereas the interviews were conducted to gather the HCP’s knowledge of STI care. During the interviews, spontaneous and probed responses for each question were documented separately. In-depth discussion were held to explore attitudes of the HCPs towards STI case management. All the investigators were adequately trained and the survey tools were pre-tested before finalizing them. A total of 507 SP visits, 262 structured interviews and 48 in-depth discussions with HCPs were conducted for this survey.
Key findings from SP visits

Practice of history taking

Most of the HCPs in all the four categories asked questions related to present symptoms and duration of symptoms as part of history taking. More than 42% HCPs in all the four categories asked about history of recent sexual exposure.

Practice of physical examination

Up to 0.8% and 11% allopathic doctors in government and private settings respectively did physical examination of the SPs by covering all the three aspects of physical examination as per NACO guidelines.

Practice of diagnosis and treatment

The proportion of HCPs who made a diagnosis of gonorrhoea ranged from 7.2% in allopathic doctors in government settings to 19.2% qualified non-allopathic HCPs. The proportion of HCPs who prescribed ciprofloxacin, a NACO recommended medicine for management of gonorrhoea, ranged from 11.4% HCPs in government settings to 5.6% allopathic HCPs in private settings.

Practice of patient education

The proportion of HCPs who advised consistent condom use ranged from 3.9% RMPs to 16% allopathic HCPs in private settings. A total of 6.4% allopathic HCPs in private settings and 4.6% qualified non-allopathic HCPs recommended partner treatment.

Key findings of HCPs’ interviews

Knowledge of history taking

The proportion of HCPs who spontaneously said that they would take history of recent sexual exposure ranged from 63.1% RMPs to 80.6% private allopathic HCPs.
Knowledge of physical examination

Up to 49.2% of the HCPs spontaneously said that they would ensure full exposure of the genitalia of STI patients, up to 26.9% of them spontaneously said that they would check for urethral discharge and up to 31.3% HCPs had spontaneously said that they would retract the foreskin of male STI patients to look for lesions underneath.

Knowledge of diagnosis & treatment

The proportion of HCPs who stated the NACO recommended medicines for management of gonorrhoea ranged from 20% of the RMPs to 46% allopathic HCPs in private settings.

Knowledge of patient education

The proportion of HCPs who spontaneously stated that they advice STI patients about condom use ranged from 46.1% RMPs to 81.5% allopathic HCPs in government settings. Similarly, the proportion of HCPs who spontaneously said that they would advise partner treatment ranged from 47.8% allopathic HCPs private settings to 13.5% qualified non-allopathic HCPs.

Gaps between knowledge and practice of HCPs in STI case management

There was a significant difference between knowledge and practice of HCPs for main elements of STI case management. For example, 76.9% HCPs in government settings spontaneously said that they would ask about recent sexual exposure, while only 42.4% of them asked the SPs about it. Although 31.3% allopathic HCPs in private settings said spontaneously that they would retract the foreskin only 11.2% did so during the SP visits. During SP visit, a total of 15.2% allopathic HCPs in private settings diagnosed the SP’s symptoms as due to gonorrhoea. However, although 46% of them stated NACO recommended medicine for treatment of gonorrhoea, only 5.6% actually prescribed it to the SPs. A total of 81.5% HCPs in government settings said spontaneously that they would advise consistent condom use to all STI patients, only 13.6% gave the same advice to the SPs.
Despite major advances in health care, some infectious diseases continue to be a cause of major concern. HIV/AIDS is perhaps the most significant of these emerging disease concerns all over the world. In India, the infection is no more limited to high-risk groups in some specific areas in the cities and is now prevalent all over the country.

More than 75% of HIV infections in the country are reported to occur through sexual route. The preventive strategies commonly adopted for STIs are also applicable for prevention and control of HIV infections. Successful strategies include improving the treatment seeking behaviour of STI patients, improving the quality of STI care provided by health care providers, early detection and treatment of STIs and promoting safer sex practices.

Magnitude of the problem in Andhra Pradesh

Andhra Pradesh is one of the worst HIV affected state in India. As on 31st of March 1998, out of 417933 blood samples screened in Andhra Pradesh 4252 were found to be HIV positive. The seropositivity rate had risen from 0.15% in 1990 to 1.15% in 1997 for all groups tested. Seropositivity rate among STI clinic attenders rose from 1.02% in 1990 to 18.5% in 1998. The seropositivity rate in the blood donors was 1% in 1998 as compared to 0.1% in 1990. Sentinel surveillance is being carried out in several sites to monitor the trends of HIV in high risk groups such as STI clinic attenders and low-risk groups such as antenatal mothers. Until the year 2000, HIV prevalence in antenatal mothers ranged from 1.25% to 4%.

The Department for International Development (DFID) of the UK Government has been supporting the Andhra Pradesh State AIDS Control Society (APSACS) through the National AIDS Control Organisation to implement targeted interventions among certain sub population groups at high-risk of HIV infection such as female sex workers, men having sex with men, injecting drug users, street children, prisoners, truck drivers, etc.
Health care provider survey

Health care provider survey (HCPS) was designed to gather information about the health care providers’ actual practices and knowledge about various elements of STI case management including history taking, physical examination, diagnosis and treatment and patient education as per NACO guidelines. HCPs who were practitioners of allopathy, ayurveda, homeopathy and RMPs and who were the first point of contact for STI patients were included in this study. This study provided baseline information about quality of STI care given by various categories of HCPs. Repeated rounds of such studies could measure effectiveness of training programmes to HCPs to provide quality STI care.

Objectives of the survey

The main objectives of the Andhra Pradesh HCPS were to:

1. Gather information regarding practice and knowledge of various categories of HCPs with regard to STI case management; and
2. Generate a baseline data with regard to STI case management by HCPs in Andhra Pradesh, which could be used to compare data from subsequent rounds of similar studies.

Indicators for gathering information

The sub-indicators for gathering information were history taking, physical examination, diagnosis/treatment and risk reduction counselling, which included treatment compliance, condom use and partner treatment.

Methodology

Methods for data collection

The method for the study was designed jointly by APSACS and Family Health International (FHI). This method included gathering information through two major components: (a) simulated patient (SP) visit to HCPs, which was immediately followed by exit interview of these SPs and (2) interview of HCPs using a structured interview schedule. During the
structured interviews, the spontaneous and probed responses were recorded separately. This was due to an assumption that spontaneous responses were more likely to translate into practice. In-depth discussion with a few HCPs were also held on issues related to STI case management. The SP methodology thus provided information on the actual practice of the HCPs while interviews provided information on the HCPs’ knowledge about various elements of STI case management.

SP method: A male, who was well trained to simulate as a STI patient, visited a HCP for consultation and said that he had urethral discharge for two to three days. He did not volunteer any other information but answered all the queries of the HCP. He also complied with instruction for physical examination, but refused to take injections or oral medicines under the doctor’s supervision during the visit. The SPs observed all details about HCP’s queries and practices regarding history taking, physical examination, diagnosis/treatment and counselling related to condom use and partner treatment. As soon as the SP concluded his visit, the exit interviewer conducted the exit interview using a pre-tested, structured questionnaire to document the SP’s experiences. Thus, the SP’s experiences provided a detailed account of the HCP’s actual practice of STI case management.

Interview method: A sample of HCPs visited by the SPs was interviewed after a gap of at least one week. Such scheduling was done in order to eliminate any possible linkage by HCPs between SPs visit and these interviews. The structured interview was conducted by a team consisting of a two social scientists. In case the HCPs did not respond spontaneously to some queries, the interviewers probed further in order to find out if the HCPs missed some points and wanted to add to his earlier response. Thus, the structured interviews collected information on both, spontaneous and probed responses of HCPs. Compilation of these information provided a clear assessment of the knowledge about STI case management among the HCPs.

**Sampling**

Selection of districts: Indicators for selecting a representative sample of districts included: (a) prevalence of high-risk behavior, (b) higher concentration of tribals, (c) predominantly rural, (d) high dependence on agriculture, (e) urbanization and (f) under development. Based on these indicators, five districts were purposefully selected for the survey. These included East Godavari, Khammam, Nellore, Rangareddi and Chittoor.
Sample groups: The HCPs were grouped into four categories:

Category 1: Doctors employed in government health care settings including government hospitals at district and city levels and in peripheral settings (Allo-govt);

Category 2: MBBS qualified doctors engaged mainly in own private practice or employed in private institutions (Allo-pvt);

Category 3: Doctors qualified in indigenous medical systems (homeopathy, ayurveda, unani and siddha) and doing such practices in medium health settings or in one physician clinic; and

Category 4: Non-qualified, traditional health care providers (RMPs).

Though NACO guidelines for STI case management was more relevant for allopathic HCPs, non-allopathic HCPs were included in the study at the request of APSACS.

Sample universe: Census map was used to study the geographical spread of the five study districts and identify clusters for mapping of HCPs. Census data was also useful to understand the groupings of cities, towns, revenue divisions, mandals and villages in these five districts. Six mandals from three divisions were selected from each district. The list of HCPs was collected from the Directorate of Health Services, various medical associations and pharmaceutical companies. A comprehensive list of HCPs was prepared through additional mapping.

Sample size: The sample of HCPs for SP visits and interviews was selected randomly using currency notes. A total of 507 HCPs were visited by SPs, a sub-sample of 262 HCPs interviewed by interviewers and in-depth discussions were held with 48 HCPs (Table 1).

Survey instruments: Three types of survey instruments were designed for the survey. These included (a) structured questionnaire for exit interview of SPs, (b) structured questionnaire for HCPs and (3) guidelines for in-depth discussion with HCPs. These tools were designed to assess the practice and knowledge of HCPs about STI case management respectively. All the instruments were finalized for the main survey after field-test during the pilot study and subsequent technical review by experts.
Training: Training of the entire research team was conducted before the pilot study. Sensitization on STIs/HIV was basic to training of the entire research team. The SP’s training focused on developing skills for narrating a STI complaint – urethral discharge – convincingly and handling sensitive or problem situations, if any, during his visit to the HCP. The Exit interviewer’s (EI) training focused on interviewing skills and documenting the SP’s experiences accurately in the structured questionnaire without allowing their personal biases and assumptions. The training of interview team focused on interview techniques, non-threatening and culturally sensitive ways of probing and eliciting information on the HCPs’ practice of STI case management and related advice to STI patients.

Pilot study: The pilot survey was conducted in two Mandals – Ongole and Kandukur – in Prakasam District in AP. The purposes of the pilot study were: (a) to field test the skills of the research team, (b) to pre-test the efficacy of tools for data collection, and (c) to assess the appropriateness of the field plan to implement the major study.

As result of the pilot study experience, the following changes were made in the survey design:

- Three divisions were covered instead of two as previously thought out, in order to get the required sampling universe.
- The sequence of questions was reorganized in order to ensure continuity of thought and free flow of information.

### Table 1: Sample size for all four categories of HCPs from 5 districts

<table>
<thead>
<tr>
<th>HCPs Category</th>
<th>SP visits</th>
<th>HCPs’ interview</th>
<th>In-depth interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Allopathic doctors in government health facilities (Allo-govt)</td>
<td>125</td>
<td>65</td>
<td>12</td>
</tr>
<tr>
<td>2. Doctors either employed in private institutions or engaged in own private practice (Allo-pvt)</td>
<td>125</td>
<td>65</td>
<td>12</td>
</tr>
<tr>
<td>3. Doctors trained in indigenous medical systems (homeopathy, ayurveda, unani) (Ayur-Homeo)</td>
<td>130</td>
<td>66</td>
<td>12</td>
</tr>
<tr>
<td>4. Non-qualified, traditional health care providers (RMPs)</td>
<td>127</td>
<td>66</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>507</strong></td>
<td><strong>262</strong></td>
<td><strong>48</strong></td>
</tr>
</tbody>
</table>
Wording and phrases were modified for simpler understanding of tools by HCPs.
Simplified skipping patterns were provided for ease of administration of tools.
Detailed descriptions of discussion points were provided in the in-depth interview guidelines to facilitate better probing by the interviewer.
Telugu version of tools were provided below the respective questions in English for better comprehension and administration of tools.
The names and addresses of HCPs in the sample size from each area were completed before the field team was deployed for the major study.

Main survey: The major study was conducted in the districts of East Godavari, Khammam, Nellore, Rangareddi and Chittoor.

Data analysis: The data was coded after scrutiny by the supervisors. The responses for in-depth discussions were compiled and analyzed for the HCPs’ attitudes and opinions regarding key issues related to STI case management. Data entry, output tables and analysis of the data were done using SPSS.

Report: A detailed report on the study was prepared. The quantitative data, the qualitative interpretation/description, findings and recommendations in this report have been based only on the data collected and documented by the research team and its experience on this study.
Key findings of SP visits

The SPs had visited a total of 507 HCPs in the four categories in five districts covered in the study. This section details the actual practice of HCPs for management of STI.

Practice of history taking

The minimum recommended standards of practice for history taking of a STI patient include inquiring about (a) presenting symptoms, (b) onset and duration of symptoms, and (c) recent sexual exposure.

Most of the HCPs in all the four categories asked questions related to present symptoms and duration of symptoms as part of history taking. The proportion of HCPs who asked about history of recent sexual exposure ranged from 42.4% in allopathic HCPs employed in government health facilities to 68.8% in allopathic HCPs either employed in private institutions or engaged in own private practice (Figure 1).
Practice of physical examination

Minimum recommended standards of practice for physical examination of male STI patients require that the HCPs (a) ask the patients to undress so that the genitals are fully exposed, (b) milk the penis to check for urethral discharge and (c) examine for genital lesions after retracting foreskin in uncircumcised males.

Up to 11% allopathic doctors practicing in private settings physically examined the SPs by covering all the three aspects of physical examination as per NACO guidelines, whereas only up to 0.8% allopathic doctors practicing in government settings fulfilled the recommend guidelines (Figure 2).

Practice of diagnosis and treatment

About 18% and 3.2% allopathic doctors in private settings recommended VDRL and urine culture tests respectively. Among allopathic doctors in government settings, 11.2% recommended VDRL test while 1.6% suggested urine culture. A total of 3.2% and 3.5% allopathic HCPs in government and private settings respectively also recommended tests for HIV (Figure 3).
Diagnosis: Only 7.2% of the allopathic doctors in government settings and 15.2% of allopathic HCPs in private settings diagnosed the SP’s complaint as suggestive of gonorrhoea. The same diagnosis was also made by 19.2% qualified non-allopathic HCPs and 11.8% of the RMPs. A total of 3.2% of allopathic doctors in private settings diagnosed the SPs’ symptoms as ‘due to heat’ (Figure 4).
Prescription practices: A total of 16.8% allopathic HCPs in government settings and in private settings each, 16.2% qualified non-allopathic practitioners and 14.9% RMPs prescribed norfloxacin. The proportion of HCPs who prescribed ciprofloxacin, a NACO recommended medicine for treatment of gonorrhoea ranged from 7.7% qualified non-allopathic HCPs to 5.6% allopathic HCPs in private settings.

Eight percent HCPs in government settings also prescribed tetracycline while 6.2% qualified practitioners of alternative systems of medicines prescribed doxycycline, which are medicines recommended for genital chlamydial infection, another condition that causes urethral discharge (non gonococcal urethritis) as shown in Figure 5.

![Figure 5. HCPs' prescription practices for urethral discharge](image)

**Figure 5. HCPs' prescription practices for urethral discharge**

**Practice of patient education**

Minimum recommended guidelines for patient education related to STIs include counseling on (a) treatment compliance, (b) consistent and correct use of condoms, and (c) simultaneous treatment of sexual partner(s).

At least 88% HCPs in all the categories advised the SP to complete the full course of treatment. The proportion of HCPs who advised consistent condom use ranged from
3.9% RMPs to 16% allopathic HCPs in private settings. A total of 6.4% allopathic HCPs in private settings and 4.6% qualified non-allopathic HCPs recommended partner treatment. None of the allopathic HCPs in government setting advised the SPs to get their sexual partner(s) also treated (Figure 6).
Key findings of HCPs’ interview

A total of 262 HCPs, which was a sub-sample of 507 HCPs visited by SPs, were interviewed using a structured interview schedule to assess their knowledge about STI case management as per NACO guidelines. These included indicators for history taking, physical examination, diagnosis/treatment and patient education on treatment compliance, condom use and partner treatment. During the interview responses given by the HCPs spontaneously were noted at the beginning. In case HCPs did not answer questions spontaneously, they were probed further and responses were noted. In the following section, spontaneous responses and cumulative responses (spontaneous and probed responses) given by HCPs for various indicators of STI case management during the interview are shown.

Knowledge of history taking

A total of 83.1% allopathic HCPs in government and 76.1% allopathic HCPs in private settings spontaneously said that they would ask STI patients about present symptoms while 50.8% and 55.2% allopathic HCPs in government and private settings respectively stated spontaneously that they would ask about onset/duration of symptoms. The proportion of HCPs who spontaneously said that they would enquire about history of recent sexual exposure ranged from 63.1% RMPs to 80.6% allopathic HCPs in private settings (Figure 7).

Knowledge of physical examination

The proportion of HCPs who spontaneously said that they would ensure full exposure of genital area ranged from 43.1% among HCPs in government settings to 49.2% qualified non-allopathic HCPs. The spontaneous response of HCPs who stated that they would check for urethral discharge ranged from 20% each among qualified non-allopathic HCPs
and RMPs to 26.9% allopathic HCPs in private settings. Up to 31.3% HCPs spontaneously said that they would retract the foreskin (Figure 8).

Knowledge of diagnosis & treatment

Diagnosis: The proportion of HCPs who said that they diagnosed STI cases on the basis of history and clinical examination ranged from 20.9% allopathic HCPs in private settings
Table 3 shows the proportion of HCPs who stated NACO recommended medicines that they normally prescribed for STIs causing urethral discharge. The proportion of HCPs who stated effective medicines for management of gonorrhoea ranged from 20% of the RMPs to 46% allopathic HCPs in private settings (Table 2).

Table 2: Reported preferences of HCPs for diagnosis of STIs

<table>
<thead>
<tr>
<th>Preferences for diagnosis</th>
<th>% of HCPs in Category</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>History only</td>
<td></td>
<td>4.6</td>
<td>8.9</td>
<td>18.5</td>
<td>27.7</td>
</tr>
<tr>
<td>Combination of history and clinical examination</td>
<td>30.8</td>
<td>20.9</td>
<td>33.8</td>
<td>38.5</td>
<td></td>
</tr>
<tr>
<td>Combination of clinical examination and laboratory tests</td>
<td>15.4</td>
<td>17.9</td>
<td>9.2</td>
<td>16.9</td>
<td></td>
</tr>
<tr>
<td>Combination of history, clinical examination and laboratory tests</td>
<td>38.5</td>
<td>50.7</td>
<td>38.5</td>
<td>27.7</td>
<td></td>
</tr>
</tbody>
</table>

Table 3 shows the proportion of HCPs who stated NACO recommended medicines that they normally prescribed for STIs causing urethral discharge. The proportion of HCPs who stated effective medicines for management of gonorrhoea ranged from 20% of the RMPs to 46% allopathic HCPs in private settings.

Table 3: Proportion of HCPs who stated recommended medicines for treatment of infections causing urethral discharge, as per NACO guidelines

<table>
<thead>
<tr>
<th>NACO recommended medicines</th>
<th>% of HCPs in Category</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I</td>
</tr>
<tr>
<td>Effective drug for gonorrhoea</td>
<td>35</td>
</tr>
<tr>
<td>Accepted alternative drug for gonorrhoea</td>
<td>20</td>
</tr>
<tr>
<td>Effective drug for NGU</td>
<td>9</td>
</tr>
<tr>
<td>Acceptable alternative drug for NGU</td>
<td>12</td>
</tr>
</tbody>
</table>

Twenty percent HCPs in government settings, 6% allopathic HCPs in private settings, 12% qualified non-allopathic HCPs and 3% RMPs also listed accepted alternative medicines for treatment of gonorrhoea.
Knowledge of patient education

The proportion of HCPs who spontaneously stated that they advise STI patients about condom use ranged from 46.1% RMPs to 81.5% allopathic HCPs in government settings. However, the cumulative response (spontaneous and probed) was at least 91% in all the four categories of HCPs for this element of patient education. Similarly, the proportion of HCPs who spontaneously said that they would advise partner treatment ranged from 47.8% allopathic HCPs private settings to 18.5% qualified non-allopathic HCPs (Figure 9).
There was considerable gap between knowledge and practice of STI case management in all categories of HCPs. This section briefly describes this gap.

Gaps between knowledge and practice of history taking

There was a significant difference between knowledge and practice of HCPs for eliciting history of onset/duration of symptoms and recent sexual contact. For example, 76.9% HCPs in government settings spontaneously said that they would ask about recent sexual exposure, while only 42.4% of them asked the SPs about it. The cumulative response for this element of history taking was 95.4% (Figure 10).

![Figure 10. Gaps between knowledge and practice of history taking for patients with urethral discharge among allopathic HCPs in government setting](image)
Gaps between knowledge and practice of physical examination

There were significant differences between knowledge and practice of physical examination of STI patients. For example, although 31.3% allopathic HCPs in private settings said spontaneously and a further 52.2% had said after probing that they would retract the foreskin of the penis to check for lesions underneath, only 11.2% did so during the SP visits (Figure 11).

Gaps between knowledge and practice of treatment for gonorrhoea

There was significant difference in the knowledge and practice of HCPs in the area of prescribing drugs for treatment of gonorrhoea. For example a total of 46% allopathic HCPs in private practice could state effective drug for treatment of gonorrhoea where as only 22.4% of them prescribed effective drug to the SPs.
Gaps between knowledge and practice of patient education

Just as for other elements of STI care, there were significant gaps in the knowledge and practice of patient education. For example, although 46.1% RMPs said spontaneously that they would advise consistent condom use to all STI patients, only 3.9% gave the same advice to the SPs (Figure 12).
Summary and recommendations

This section summarises the key findings of knowledge and practice of HCPs with regard to STI case management. It also briefly states the recommendations based on these findings.

The knowledge of taking history of recent sexual exposure was higher than its practice. This gap was a major limitation in the history taking element of the HCPs’ STI care as without this history, a provisional diagnosis of STIs may not be made. Similarly, despite more than half the HCPs in all the four categories having the knowledge of the three elements of doing physical examination for STI cases, the practice was very low.

Although more than 42% HCPs in all the four categories elicited the history of recent sexual exposure, the diagnosis of gonorrhoea was made by less than 20% of them. The proportion of HCPs across all categories who recommended ciprofloxacin and norfloxacin to SPs ranged from 21.2% to 23.9%. Eighteen to 35% of HCPs across the categories could mention these drugs for treatment of gonorrhoea during the interview. The practice of advising STI patients on two critical components of STI case management – consistent condom use and partner treatment – was also low despite a high level of knowledge.

Recommendations

- A system of regular training of HCPs in syndromic case management for STIs needs to be instituted in order to promote quality care of STIs. During training, special emphasis needs to be given on physical examination, prescribing recommended medicines for all STIs and giving advice on consistent condom use and simultaneous partner treatment.
- Adequate infrastructure in clinical settings need to be provided in order to ensure privacy of patients and to facilitate physical examination.
- Since non-allopathic HCPs also treat STI cases, special emphasis needs to be given to improving their quality of STI care.