

# Qualitative Comparative Analysis for Critical Event Research and Prevention in India

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**Jean J. Schensul, Ph.D., ICR**

**Devyani Chandran, Ph.D., ICR**

**S.K. Singh, Ph.D., IIPS**

**Marlene Berg, M.U.P., ICR**

**Kamla Gupta, Ph.D., IIPS**

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# Presentation AIMS

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- ❑ To describe critical event approach to evaluating risk among low income young married and unmarried men.
  - ❑ To describe procedures for analysis of critical events using text management (Atlas Ti) and QCA software
  - ❑ To identify multiple configurations (location of sex, partner type and alcohol use) and pathways leading to protected and unprotected sex,
  - ❑ To evaluate contributory role of alcohol in unprotected sex.
  - ❑ To suggest script (configuration) based strategies for intervention at the individual, provider and community level.
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# ASHRA: The Study

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- ❑ ASHRA, a mixed methods study examining the role of alcohol in facilitating sexual behavior and unprotected sex.
  - ❑ Methods: social mapping, cultural mapping, participant observation, key informant interviews, indepth interviews with drinkers, ethnographic survey of 1239 men 18 – 30; 1059 30 day drinkers.
  - ❑ Goals: describe meaning of drinking in study communities; to obtain indepth data on drinking behavior and sexual risk; to generate epidemiology of drinking and sexual risks and consequences; to explore spatial dimensions of drinking and sexual risk taking; to use data for prevention.
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# Qualitative Comparative Analysis

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Quantitative event analysis has been unable to show direct relationships between alcohol use and sexual risk.

Even in critical event analysis, the pattern of association or prediction among variables is inconsistent.

Further both tend to show main trends, rather than patterns of difference in types of cases (events) involving use of alcohol with protection versus nonprotection that would lead toward tailored interventions.

Qualitative Comparative Analysis (QCA) is based on set theory.

It assumes that variables are not discrete, and that causality is complex, involving different configurations, or sets of variables or “pathways” that produce the same outcome.

It enables us to focus on patterns of relationship of variables **within cases** (people or critical events), rather than patterns of relationship among **variables**.

# Qualitative Comparative Analysis of Critical Event Data

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- ❑ Data for analysis include:
    - 84 indepth interviews on migration, lifestyle, drinking, and sexual history
    - Two or more critical events defined as sexual engagement with any partner in the past 30 days with and without alcohol use.
    - Total of 211 critical events
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# Methods

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- ❑ Trained qualitative interviewers
  - ❑ Open ended semi structured interview schedule
  - ❑ Three to five sittings
  - ❑ Interviews included
    - narratives of personal histories, alcohol careers, intimate relationships and condom use and sexual risk attitudes and behaviors.
    - descriptions of sexual events with and without alcohol use and condom use, including event history, location, partner, activities and drinking behavior.
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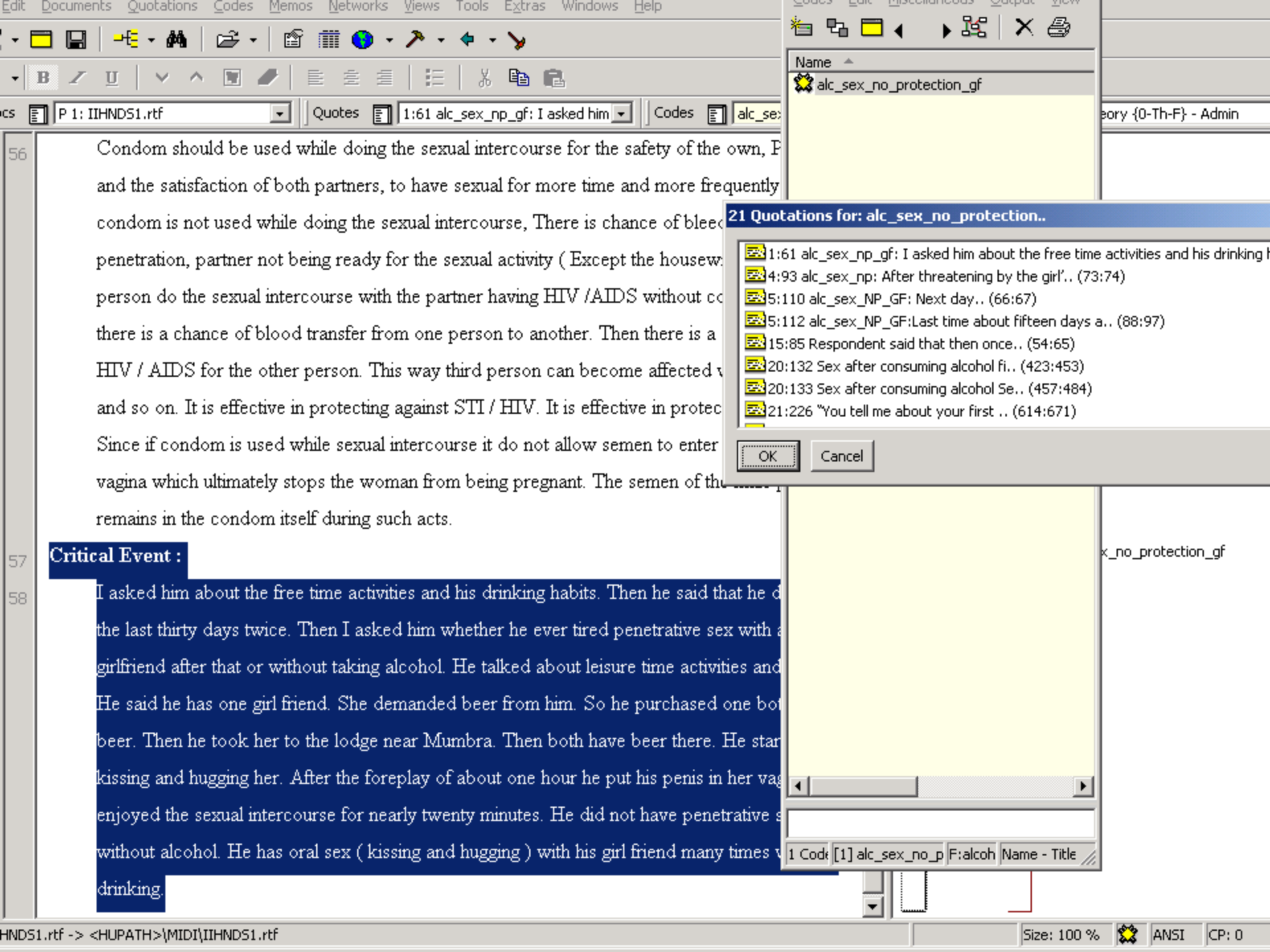
# Study Population Demographics: Indepth Interviews

Religion	Percent (religion)	Marital Status	Percent (marital stat)	MarAge	Migration	Percent (migration)
Hindu(7)	83%	Single(4)	47%	Single non=24%	From Mumbai (24)	28%
Muslim(7)	84%	Married Livingwith wife(2)	31%	Married Livingwith wife=27.9	Not from Mumbai (6)	21.4%
Christian(1)	12%	Married living alone (1)	21.4%	Married living alone=21.7		
Buddhist(6)	72%					

# Steps in Preparation for Qualitative Comparative Analysis using FSQCA software

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- ❑ Collect and code critical events in interviews
    - Identify main variable combinations in codes (eg. alc\_noprotect\_CSW; noalc\_protect\_gf)
  - ❑ Code other relevant variables for analysis in the critical event. Code them as present only once in the Critical event
  - ❑ Export critical event codes to Excel spread sheet or create a spread sheet
  - ❑ Label cases with a case ID (Person 1, CE1a, CE1b, CE1c) in the critical event
  - ❑ Import spread sheet into FSQCA software or enter data directly into FSQCA software
  - ❑ Perform desired analyses.
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56 Condom should be used while doing the sexual intercourse for the safety of the own, P and the satisfaction of both partners, to have sexual for more time and more frequently condom is not used while doing the sexual intercourse, There is chance of bleed penetration, partner not being ready for the sexual activity ( Except the housew person do the sexual intercourse with the partner having HIV /AIDS without co there is a chance of blood transfer from one person to another. Then there is a HIV / AIDS for the other person. This way third person can become affected v and so on. It is effective in protecting against STI / HIV. It is effective in protec Since if condom is used while sexual intercourse it do not allow semen to enter vagina which ultimately stops the woman from being pregnant. The semen of the remains in the condom itself during such acts.

57 **Critical Event :**

58 I asked him about the free time activities and his drinking habits. Then he said that he d the last thirty days twice. Then I asked him whether he ever tired penetrative sex with a girlfriend after that or without taking alcohol. He talked about leisure time activities and He said he has one girl friend. She demanded beer from him. So he purchased one bot beer. Then he took her to the lodge near Mumbra. Then both have beer there. He star kissing and hugging her. After the foreplay of about one hour he put his penis in her vag enjoyed the sexual intercourse for nearly twenty minutes. He did not have penetrative s without alcohol. He has oral sex ( kissing and hugging ) with his girl friend many times v drinking.

21 Quotations for: alc\_sex\_no\_protection..

- 1:61 alc\_sex\_np\_gf: I asked him about the free time activities and his drinking h
- 4:93 alc\_sex\_np: After threatening by the girl.. (73:74)
- 5:110 alc\_sex\_NP\_GF: Next day.. (66:67)
- 5:112 alc\_sex\_NP\_GF:Last time about fifteen days a.. (88:97)
- 15:85 Respondent said that then once.. (54:65)
- 20:132 Sex after consuming alcohol fi.. (423:453)
- 20:133 Sex after consuming alcohol Se.. (457:484)
- 21:226 "You tell me about your first .. (614:671)

OK Cancel

1 Cod: [1] alc\_sex\_no\_p F:alcoh Name - Title

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
id	alcohol	csw	girfrnd	brgrl	brothel	bar	home	outside	lodge	protection	single	mwithoutw	mwithwife	
1	1	0	1	0	0	0	0	0	1	0	1	0	0	
2	1	1	0	0	1	0	0	0	0	0	1	0	0	
3a	0	0	1	0	0	0	1	0	0	0	1	0	0	
3b	0	1	0	0	1	0	0	0	0	1	1	0	0	
3c	1	1	0	0	1	0	0	0	0	1	1	0	0	
4a	0	0	1	0	0	0	0	0	1	0	1	0	0	
4b	1	0	1	0	0	0	1	0	0	0	1	0	0	
5a	1	0	1	0	0	0	0	0	1	0	1	0	0	
5b	0	0	1	0	0	0	0	1	0	0	1	0	0	
8a	1	1	0	0	1	0	0	0	0	1	1	0	0	
8b	0	1	0	1	0	0	0	0	0	1	1	0	0	
9a	1	0	1	0	0	0	1	0	0	1	1	0	0	
9b	0	0	1	0	0	0	1	0	0	1	1	0	0	
10a	1	1	0	0	1	0	0	0	0	1	1	0	0	
10b	0	1	0	0	1	0	0	0	0	1	1	0	0	
11a	1	0	1	0	0	0	0	0	1	1	1	0	0	
11b	0	0	1	0	0	0	0	0	1	1	1	0	0	
12a	1	0	0	1	0	0	0	0	1	1	1	0	0	
12b	0	0	1	0	0	0	0	0	0	0	1	0	0	
13a	1	1	0	0	1	0	0	0	0	1	1	0	0	
13b	0	0	1	0	0	0	0	1	0	1	1	0	0	
14a	1	1	0	0	1	0	0	0	0	1	1	0	0	
14b	0	0	1	0	0	0	0	0	0	0	1	0	0	
14c	0	0	1	0	0	0	0	1	0	1	1	0	0	
15a	1	0	1	0	0	0	1	0	0	0	1	0	0	
15b	0	0	1	0	0	0	1	0	0	0	1	0	0	
15c	0	0	1	0	0	0	1	0	0	0	1	0	0	
17a	1	1	0	0	1	0	0	0	0	1	1	0	0	
17b	1	1	0	0	1	0	0	0	0	1	1	0	0	
21a	1	0	1	0	0	0	1	0	0	0	1	0	0	
21b	0	0	1	0	0	0	1	0	0	0	1	0	0	
21c	1	0	1	0	0	0	1	0	0	0	1	0	0	
26a	0	0	1	0	0	0	0	1	0	0	1	0	0	

# Applying FSQCA Software

- ❑ We applied this approach using Fuzzy Set QCA software to all critical events, using variables derived from three independent domains we believed to predict condom use behavior.
  - ❑ Partner type (CSW, bar girl, girlfriend, wife)
  - ❑ Location (brothel, bar, lodge, home/friend's home)
  - ❑ Alcohol use (no alcohol used/alcohol used)
  - ❑ Protection (no condom use/condom use)
- ❑ The dependent /outcome variable was protection (no condom used/condom used)
- ❑ An analysis of 211 events produced 16 different configurations or groupings of the four primary variable domains across all events and marital status.
- ❑ Analysis was repeated for three groups of men: single, married and living with wives, and married living away from wives.
- ❑ We report on analyses for each group

# Steps in Analysis using fSQCA Software

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- ❑ Enter desired causal variables
  - ❑ Define outcome
  - ❑ Conduct crisp set analysis (using categorical data)
  - ❑ Produce Truth Tables (all possible configurations of selected variables)
  - ❑ Eliminate rows with consistency of less than .5 - .8 and less than 3 cases.
  - ❑ Consistency refers to the degree of events (cases) within the row fit the configuration
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# Truth Table: Single Men (40)

## 83 events, 49 (.69) included

ALCOHOL	CSW	GIRFRIND	BRGRL	BROTHEL	BAR	HOME	OUTSIDE	LODGE	number	protection	Consistency	pre	product
0	1	0	0	1	0	0	0	0	10	1	1	1	1
1	1	0	0	1	0	0	0	0	19	1	0.947368	0.947368	0.897507
0	0	1	0	0	0	0	0	1	3	1	0.666667	0.666667	0.444444
1	0	1	0	0	0	0	0	1	7	0	0.428571	0.428571	0.183673
0	0	1	0	0	0	0	1	0	10	0	0.4	0.4	0.16

Consistency measure in the Truth Table (which produces the basic configurations of variables with outcomes) is the proportion of cases that conform to the configuration of presence/absence of variables and is best set at .8 level (80% agreement or co-occurrence of variables)

# Minimization: Finding the Best Fit of Causal Configurations with Outcome

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- Program compares and contrasts every case and every variable against every other in an edited Truth Table.
  - Within configurations it eliminates causal variables that are both present and absent
  - It produces three classes of solutions:
    - General
    - Intermediate
    - parsimonious
  - Each solution provides measures of consistency and coverage.
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# Consistency and Coverage

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- ❑ Consistency measure in minimization indicates degree of overlap in causal variables. Cutoff point is .90.
  - ❑ Coverage in minimization indicates degree to which the configuration accounts for instances of the outcome variables. With multiple pathways, the coverage may be small (only a small number of cases, but these cases may be important)
  - ❑ Consistency is more important than coverage.
  - ❑ Necessary versus sufficient logic. Necessary refers to presence in all situations with the specific outcome.
  - ❑ Sufficient refers to whether the variable predicts outcome but does not account for all examples of the outcome (sufficient to cause it, but does not cause all such outcomes)
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# Resulting Main Configurations: Single Men

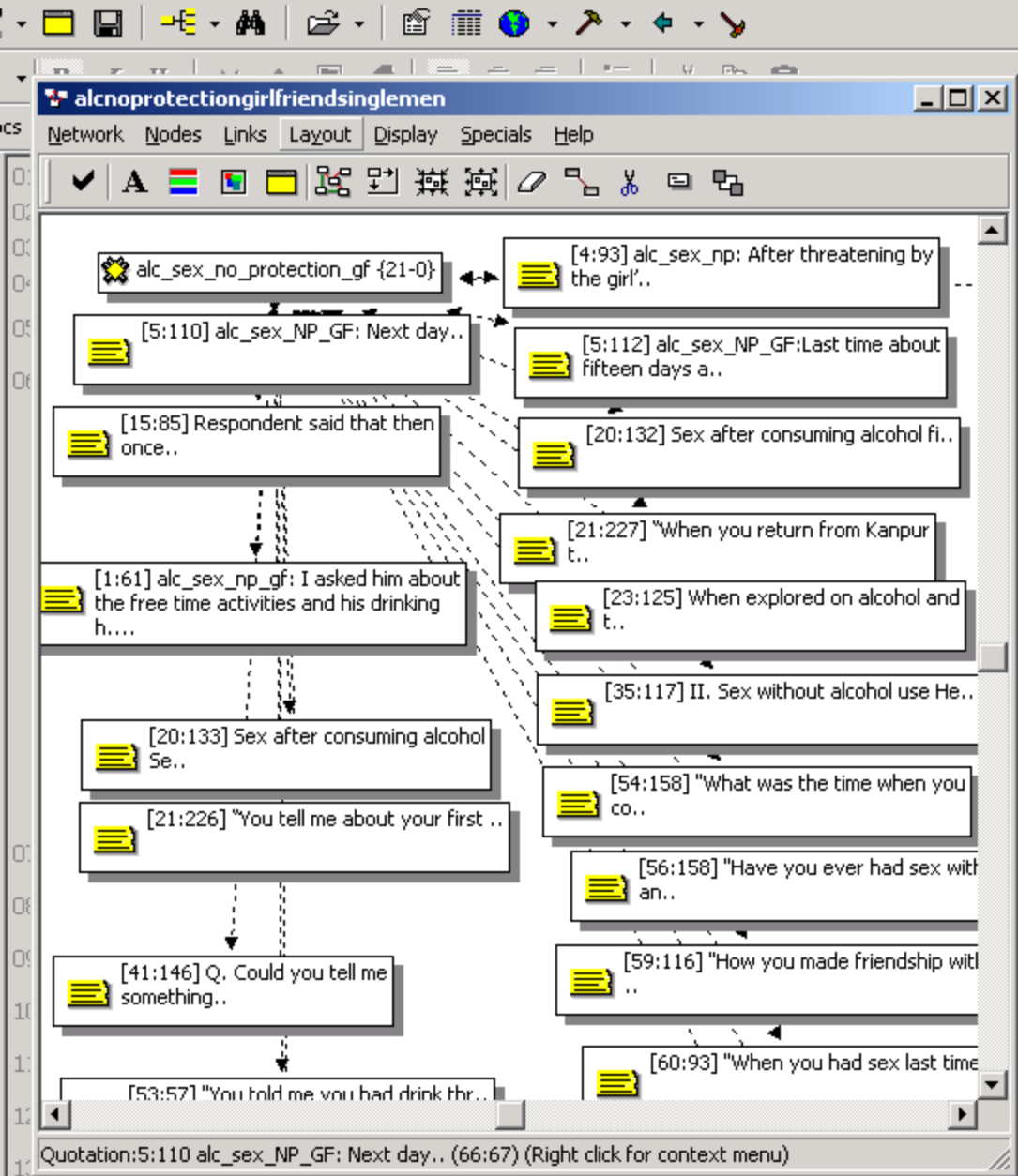
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## □ With Protection (20)

- ~lodge\* ~outside\* ~home\* ~bar\* **brothel\***  
~brgrl\* ~girfrnd\* **csw**

## □ Without Protection (27)

- ~lodge\* ~outside\* ~bar\* ~brothel\* ~brgrl  
\***girfrnd\*** **home\*** ~csw (19) (home)
  - ~lodge\* ~outside\* ~bar\* ~brgrl\* **girfrnd\*** **home\***  
~csw\* **alcohol** (8) (these cases are of special  
interest)
-



view

**Primary Docs (42)**

- P 1: IIHNDS1.rtf
- P 3: IIHNDS3.rtf
- P 4: IIHNDS4.rtf
- alc\_sex\_no\_protection\_gf {21-0}
- P 5: IIHNDS5.rtf
- alc\_sex\_no\_protection\_gf {21-0}
- 5:110 alc\_sex\_NP\_GF: Next day.. (66:67)
- 5:112 alc\_sex\_NP\_GF:Last time about fifteen days a.. (88:97)
- P 8: IIHNHRSS01.rtf
- P 9: IIHNHRSS02.rtf
- P10: IIHNHRSS03.rtf
- P11: IIHNHRSS05.rtf
- P12: IIHNHRSS08.rtf
- P13: IIHNHRSS09.rtf
- P14: IIHNHRSS10.rtf
- P15: IIHNHRSS12.rtf
- alc\_sex\_no\_protection\_gf {21-0}
- P17: IIHNPK2.rtf
- P20: IIINAK2.rtf
- P21: IIINAK3.rtf
- P23: IIINCJ1.rtf
- P26: IIINCJ2.rtf
- P30: IIINCJ6.rtf
- P31: IIINCJ7.rtf
- P35: IIINSK1.rtf
- P36: IIINSK2.rtf
- P40: IIINSK6.rtf

Code: alc\_sex\_no\_protection\_gf {21-0}

Number of Sitting : 4 sittings

Domains Covered : Actual names of the domains or All

# Single with protection

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## P17. **Critical Event (alcohol use and sexuality):**

I got your question. Last Friday my friends and myself decided to watch blue films at our place. Actually inside the video parlours there is very less space and there are people shouting or making noise also the place is full with smoke of cigarette or bidi so we planned to see it in our room. Television set and video compact disc player are available on rent basis. So we hired it and we were watching blue film. One of my friend got alcohol also as inside video parlours you cannot drink freely but here we were free to enjoy as per our wish. 'jo mazaaa apne ghar par dekhne ka hai wo video hall mein nahi mil sakta hai" The pleasure one can get in watching blue film at own place is not there at the video halls. So we were watching and enjoying our drink s well. After the movie got over we got some fried fish and finished with alcohol. It was around eight in the night. The models in blue films were very good looking with big boobs and very sexy body.

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We were all fully aroused and wanted to satisfy our sexual desire so we went to the Tekri area. Around this time Tekri area is full of commercial sex workers and one has more choice. One of our friends stayed back saying he is having headache. We tried to persuade him but he wanted to enjoy watching blue prints so we left him and two of us went to Tekri area. After reaching Tekri area we had paan and cigarette and then we went inside to select the girl. We both selected our respective sexual partners and had sex.

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# Continued...

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*What sort of sexual acts you did there?*

I kissed, fondled, caressed (girls like these things and later they satisfy you better) and then I had vaginal penetrative sex. *With or without condom?* Certainly with condom I told you before that in Tekri area girls themselves provide condoms to the clients and and otherwise also it is not worth taking risk of having sexual intercourse with commercial sex workers without condoms. You cannot risk your life. *Then what.....*After that we roamed for some time and talked among ourselves how was the experience. My friend had anal sex but I do not like that.

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# Single, without protection, no alcohol

**P21: IINAK3.rtf -**

"Please tell me about your third time experience." (this case involved meeting the daughter of a neighboring household who indicated interest. He found ways of enticing her with pictures and she responded by exposing her breast and allowing intimate gestures over time.

I: How you got opportunity?"

SIN told, "One day my uncle went to Santacruz. I was alone at my uncle's house. I told her to come at me in the night. After dinner she came at my uncle's room. She stayed there whole night and I had sex with her twice."

"She came at 12.00 or 1.00 AM in the night. Then we both slept on bed. We opened clothes each other. Then we had sex twice in the whole night ( "How you took initiative for sex..."

SIN told, "First we start chat with each other. During chatting with her I was touching her hairs and kissed her on her face also. Then I become excited and start press her breasts. She also kissed me. Then I sucked her breasts. She was responding well "Can you tell me that how she respond well?"

SIN told, "She kissed me on my whole body over my waist. Then we catch each other tightly. We both were very excited. Then I entered my penis into her vagina and had sex. Whole night we continued these activities and had sex twice ( "You used condom?"

SIN told, "No."

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P41. Q. Q. Last time when did you indulged in sexual intercourse with madam?

Q. Could you tell me in detail about that event?

A. Actually, it was Thursday and her husband had gone to a place outside. When she used to ring on mobile then I was chatting with friends near by the Lubrizol Oil Company. I came at room and saw two roommates were present at that time. After sometime she came so I requested to my roommates to left out the room at that time. It was near about 12 p.m. at afternoon. We enjoyed two games at that time. She stayed up to 2:30 p.m. along with me. Then she went out from the room.

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Q. Did it plan?

A. No, it was casual. Actually, madam is initiative at all time.

Q. Did you use condom?

A. I already told you that I never use condom with madam.

Q. Why?

A. I am faithful to her. I do not feel comfortable with condom with madam. My conscious is not allowed to its use with madam.

Q. Did you use alcohol during sex with madam?

A. Actually, **when I had sex with her first time** then I used alcohol. After that I have never used alcohol before or during sexual intercourse.

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# Married Men Living with Wives with Non-spousal Partners

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- With Protection (1)
    - ~lodge\* ~outside\* ~home\* ~bar\* **brgrl\*** ~girfrnd\* **alcohol** (N=1)
  - Without Protection (9)
    - ~lodge\* **outside\*** ~bar\* ~brothel\* ~brgrl\* ~girfrnd\* **CSW\* alcohol** (N=1)
    - **lodge\*** ~bar\* ~brothel\* **brgrl\*** ~girfrnd\* ~csw\* **alcohol** (N=2)
    - ~lodge\* **bar\*** ~brothel\* **brgrl\*** ~girfrnd\* ~csw\* **alcohol** (N=4):
    - **lodge\*** ~bar\* ~brothel\* ~brgrl\* **girfrnd\*** ~csw\* **alcohol** (N=1)
    - **home\*** ~bar\* ~brothel\* ~brgrl\* **girfrnd\*** ~csw\* **alcohol**: (N=1)
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# Married Men Living without Wife with Non-spousal Partner)

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## □ With Protection (9)

■ **lodge**\* ~outside\*home\* ~bar\* ~brgrl\*  
~girfrnd\* **csw**\* ~alcohol (1)

■ **lodge**\* ~outside\* ~home\* ~bar\*brothel\* ~brgrl\*  
~girfrnd\* **csw**\* **alcohol**: (8)

## □ Without Protection (13)

■ ~lodge\* **outside**\* ~bar\* ~brothel\* ~brgrl\* **girfrnd**\*  
\* ~csw: (8)

■ ~lodge\* **home**\* ~bar\* ~brothel\* ~brgrl\* **girfrnd**\*  
~csw (4)

■ ~lodge\* **home**\* ~bar\* ~brothel\* **brgrl**\* ~girfrnd\*  
~csw\* **alcohol** (1)

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# Read Cases: Identify Common Patterns within and Across Configurations

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- There are no configurations in which alcohol is both necessary and sufficient or sufficient;
- Alcohol plays a necessary (configurational causal) role in sex events without protection under some specific conditions:
  - For some single men with girlfriends having sex at home
  - For married men living with their wives who have relationships with any women other than a brothel-based CSW
  - For married men living away from their wives with a girlfriend, at home or outside.

Location (home or outside) and partner are also key in relation to unprotected sex.

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# Alcohol and Sex in a Low Risk Population

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- ❑ The cases illustrate that alcohol acts to focus the individual on sex
  - ❑ Disinhibition mainly with new partner
  - ❑ Expectation of greater pleasure
  - ❑ Persuasion of partner to have sex
  - ❑ Quantity of alcohol is relatively small.
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# Protection is regulated by:

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- ❑ Women who require it, mainly CSWs in local brothels.
  - ❑ Men who have made antecedent decisions to use condom at all times for fear of infection.
  - ❑ Intimacy of relationship (e.g. condom is not used with CSWs who become “girlfriends”, nor other women who are considered “girlfriends” including bar girls.
  - ❑ Location of sex
  - ❑ First sexual experience (almost never involves condom; but CSW overrides the pattern).
  - ❑ Next steps involve close readings of events in each grouping to identify common components important in intervention.
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# Implications

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- ❑ Method can be used with larger amounts of qualitative data (critical events Ns of over 40).
  - ❑ Organizes cases by groups of variables rather than variables separate from cases.
  - ❑ Allows identification of “classes” or groupings of critical events (cases) by different patterns and pathways of activities that lead to the same end - unprotected sex.
  - ❑ Logic of configurational causality includes or excludes alcohol as a causal factor
  - ❑ Events where alcohol is a causal factor are targets for risk reduction intervention.
  - ❑ The approach avoids stereotyping and facilitates differentiation of universal (general patterns of risk) from targeted intervention planning around known configurations of place, partner, substance and other potential factors, in the same population.
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