Original Research Article

Knowledge, Attitude and Practice about Sexually Transmitted Infections among Lady Health Workers working in endemic areas of Sindh, Pakistan

Abstract:

Globally, Human Immunodeficiency Virus (HIV) took the lives of nearly 680,000 people in 2020**.** And STI prevalence was found at almost 4.4% in the local population. As Lady Health Workers (LHWs) are a communication bridge between the patient and care provider therefore we aim to assess and identify the gaps in the knowledge, attitude, and practice of lady health workers regarding STIs

Methods:

A descriptive cross-sectional study for 12 weeks (January-2020 till March-2020) was conducted among 18-60years who were trained in the last 3 months for the basic health unit in Jacobabad and were assessed for their knowledge, attitude, and practices. A total of 316 participants were selected via a simple random technique from 595 LHWs whereas analysis was performed in SPSS v.25

Results:

Total of 315 LHWs participated with mean age of 36.32±6.61 years and 99.4%, were Muslim. Their mean household monthly income was 26010.13± 2201.86 rupees and the majority, 266 (84.4%), were married and half of them, 169 (49.7%), were matriculated. Almost 94% knew about STDs but their knowledge was 6% at an excellent level. Very low number 7.9% found as excellent in the attitude assessment scale among participants whereas none of them was identified as excellent in practice.

Discussion:

The results findings showed that LHW should be equipped with the proper knowledge of STDs. LHW is in need of getting proper training on the practice as only 0.3% of the population involved in the study had a good practice of STDs.

Keywords:

Attitude, Knowledge, Lady Health Workers (LHWs), Practice, and Sexually Transmitted Infections (STI)

Introduction:

Sexually transmitted infections (STI) are a group of diseases of a special global public health concern due to their massive impact on health outcomes. The most prevalent of these diseases include syphilis, gonorrhea, trichomoniasis, herpes simplex virus (HSV), human papillomavirus (HPV), chlamydia, and hepatitis B. The most notorious, however, is the Human Immunodeficiency Virus (HIV) which took the lives of nearly 680,000 people in 2020 [(1)]. As per the reported data of 2009 among the Pakistani population, STI is prevalent in almost 4.4% [(2)] which found as compared to African countries [(3)]. According to the World Health Organization, approximately 1 million STIs are transmitted daily around the globe, horizontally, through sexual contact and the exchange of body fluids, causing symptoms like reproductive tract diseases or vertically, during pregnancy from a mother to her child, leading to outcomes like stillbirth, neonatal death, low-birth-weight, premature birth, sepsis, pneumonia, neonatal conjunctivitis, and multiple congenital deformities [(4, 5)].

The CDC has recommended different strategies to prevent STI spread, including youth awareness programs, early screening interventions [(6)]. Partner-based prevention programs have also proved to be a favorable approach [(7)]. However lower-middle-income countries continue to

suffer from a lack of resources and intervention programs, leaving these infections to spread unchecked so that even curable STI's can lead to dismal health outcomes [5].

In Pakistan, the financial strain on the healthcare system is compounded by social stigmas that surround STI's. These issues cause reservations among the population in seeking timely treatments from healthcare providers. This behavior is most common in females, who already have limited social mobility [8].

However, Pakistan is not without its own prevention strategy. In 1994, the Government of Pakistan launched the Lady Health Worker's program, whose main objective is to provide basic healthcare or emergency treatments to those in need, improve health access for women and children in rural areas, and also promote health education [9].

With such important responsibilities in hand, Lady Health Workers play a key role in improving primary healthcare in underserved areas Evidence from Asian countries suggests that the role of community health workers and lady health workers (LHWs) in spreading awareness about STIs, early screening, and surveillance has been remarkable and has shown a significant decrease in the incidence of STIs including HIV/AIDS in targeted high-risk populations. [10, 11]

Therefore, this study is designed to assess and identify the gaps, if any, in the knowledge, attitude, and practice of lady health workers regarding STIs, including HIV/AIDS, in Pakistan, so that amendments in their curriculum can be highlighted based on the need.

The study takes place in Jacobabad, a city in the Larkana district of Pakistan's Sindh province, which reported a mass outbreak of horizontal HIV transmission in children in 2021. Being an underserved area, the city heavily relies on its Lady Health Workers, whose positive knowledge, attitude, and practice towards STIs may help improve the area's outcomes significantly.

Design and Methods:

A descriptive cross-sectional study was carried out in LHWs working for a period of 12 weeks between January 2020 till March 2020 in district Jacobabad, city located in the province of Sindh, Pakistan. Those lady health workers age of 18-60 years and were trained for basic health unit within Jacobabad, Sindh, within last three months were become the part of survey. Their participation in the survey was voluntarily. Due to the cross-sectional study design, the LHWs who were on leave or had transferred during the study period were excluded from the study. The study was carried out after obtaining the written informed consent

Based on the questions asked about the knowledge, attitude, and practices, subjects were marked as correct or incorrect and their score of correct answers were also calculated to compare the results whereas 80% correct answer rate was considered as either a right attitude or acceptable practices, respectively.

The demographic information that includes age, Level of education as middle, matriculation, intermediate, graduation, and post-graduation, Marital Status as single, married, divorced, and widowed and the monthly income was gathered.

Each section of questionnaire contains 10 questions. A set of 30 questions were asked from each individual. The knowledge section contains questions regarding the modes of transmission of STIs, ways of prevention, signs and symptoms, treatment and management options currently available, and myths related to STIs, including HIV/AIDS.

Attitude questions were related to the need for isolation, touchability, perception of keeping STI infection a secret, care of a person infected with an STI, pregnancy and STI, privacy and confidentiality of person infected with STIs, and refusal to treat from the health care provider.

Whereas Practices of lady health workers during healthcare delivery to the patients infected or

suspected of STI including HIV/AIDS was assessed by inquiring about their self STI screening practices, refusal to care for a patient infected with STI including HIV/AIDS, their perceptions regarding having multiple sexual partners and the necessity of awareness regarding the prevention of STIs within the community.

With the Open Epi Sample size determination, total of 316 LHWs were approached considering the prevalence 50% and attrition rate 25%. From 595 LHWs, 316 were selected by simple random sampling technique using online randomization software (Randomization, 2020). A random list of 316 numbers was generated by the software and was used to select the LHWs from the list provided by the DHO. The data was collected via phone call or face to face interview.

As the questionnaire was non-validated therefore pretesting of the questionnaire was carried out on approximately 5% of the total sample size, which was 16 lady health workers. This was applied before the data collection process for the study, and the data from these participants were not considered in the final analysis of the study. Revision and modification related to the language were done after pretesting. It was developed in English; however, it was translated into Sindhi after pretesting due to the need identified.

Analysis of the study data was carried out with SPSS software (version v25). The percentages and frequencies were presented for categorical variable whereas mean and standard deviation were calculated for continuous variable. Cross tabulations and Pearson's chi-square test was applied to calculate associations whereas P-value of ≤ 0.05 was considered as significant.

Results

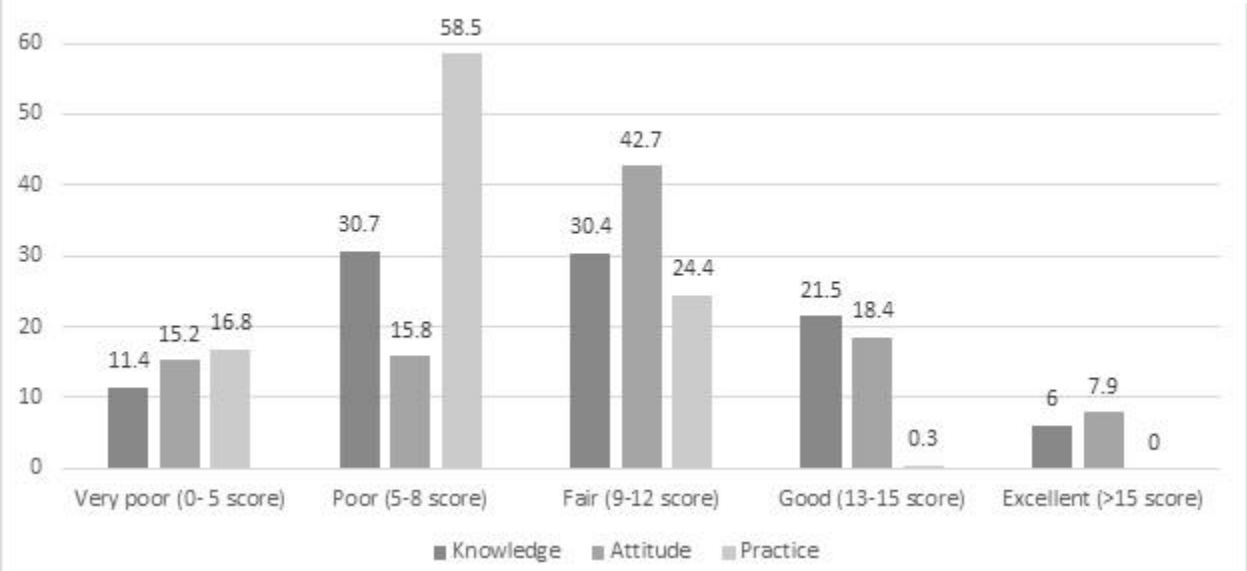
A total of 315 lady workers participated in the study with mean age 36.32±6.61 years and approximate all, 99.4%, were Muslim. Most of the 246 (78.1%) were spoken Sindh followed by, 47(14.9%) Balochi, 18 (5.7%) Brahwi, and 4 (1.2%) Urdu language. The mean of their household monthly income was 26010.13± 2201.86 rupees. Majority, 266 (84.4%), were married, 23 (7.3%) single, 23 (7.3%) widow, and 3 (1%) were divorced. Half of the responders, 169 (49.7%), were matriculated followed by 111 (32.6%) were intermediate, graduated 27 (7.9%) and postgraduate 8 (2.4%).

Knowledge:

296 (94%) of the participant responded that they know about the sexually transmitted disease (STD) but upon asking about STD names, only 17 (5.4%) marked all 5 listed STD names whereas 32 (10.2%) were unaware with any of the STD (Figure 1). Among all responders, 161 (51.1%), rightly answered HIV/AIDs as a viral disease whereas 65 (20.6%) considered it as a bacterial disease, 40 (12.7%) considered it as a genetic disease and 51 (16.2%) considered it as infectious disease. The knowledge was also assessed by asking the mode of transmission of HIV/AIDS and only 28 (8.9%) of lady health workers marked all correct modes of transmission listed in the predefined questionnaire whereas 23 (7.3%) didn't mark any of the right answers. The majority, 265 (84.1%), knew about unprotected sexual intercourse whereas very low responders, 81 (25.7%), knew that it can also be transferred through mother milk. HIV/AIDs could be prevented in different ways and the majority were aware that the use of condom 271 (86%), limited sexual contact 255 (81%), needles sharing 234 (74.3%), blood transfusions 197 (62.5%) and knew about spouse medical and social history 159 (50.5%) also contribute positively in transmission of HIV/AIDS. Among responders, the majority, 227 (72.1%) were

aware that treatment of STD requires drug therapy whereas there were responders with the misconception that it can be treated with drinking milk 45 (14.3%), faith healing 46 (14.6%), traditional treatment 49 (15.6%) or surgical operation 37 (11.7%).

Figure 1: Categorization of knowledge, attitude and practices of all participants



Among 296, 206 (65.4%) of responders marked that the STD could be transferred from a person who seems perfectly fine and healthy. 216 (68.6%) were showed that limiting relationships among couples can also protect from STD whereas 172 (54.6%) had an opinion that complete treatment is available for STD.

Knowledge level of lady health workers regarding STDs including HIV/AIDS were contributed as 11.4% had very poor knowledge followed by poor knowledge (30.7%), fair knowledge (30.4%), good knowledge (21.5%) and excellent knowledge (6%) as shown in Table 1.

Table1: Knowledge of LHWs about STDs

STDs	
Right answers for listed STDs	

HIV/AIDs	270 (85.7%)
Hepatitis A	167 (53%)
Human Papillomavirus	96 (30.5%)
Gonorrhea	50 (15.9%)
Syphilis	47 (14.9%)
Wrong answers for STDs	
Malaria	71 (22.5%)
Chicken POX	70 (22.2%)
Tuberculosis	92 (29.2%)
Herpes	51 (16.2%)
Diabetes	57 (18.1%)
Ulcer	26 (8.3%)
Poliomyelitis	18 (5.7%)
Mode of transmission	
Correct Answers for Mode of transmission	
Unprotected Sexual Intercourse	265 (84.1%)
Blood Transfusions	232 (73.7%)
Multiple Sex Partners	194 (61.6%)
Needle Stick Injuries	180 (57.1%)
Tribal Marks Tattoos	157 (49.8%)
Through Sharing needles and other surgical instruments	136 (43.2%)
Through a pregnant woman of HIV to unborn Baby	117 (37.1%)
Through Mother to her Baby through breastfeeding	81 (25.7%)

Wrong Answers for Mode of transmission	
Open Wound	106 (33.7%)
Human Saliva	86 (27.3%)
Sharing Bed and Clothes	57 (18.1%)
Through air when person cough or sneeze	47 (14.9%)

Attitude:

Among the attitude questions, almost half of the responders, 151 (47.9%), think that STD patients should be isolated, 95 (30.2%) wouldn't even like to sit with STD infected person. The majority, 173 (54.9%), thinks that STD infected persons should be allowed at the workplace. If a person is diagnosed with STD, 150 (47.6%) responders think that it shouldn't be kept a secret whereas 208 (66%) agreed to take care of STD infected persons if diagnosed within family. There were 242 (76.8%) suggested that tests for STD should be conducted for every hospitalized patient and 233 (74%) recommended that every pregnant lady should be tested for STD. Among all, 120 (38%) LHWS thought that there are chances that the health care providers can refuse to take care of STD patients. Out of all, 127 (40.3%) responders think that STD infected patients' name should be disclosed publicly and 149 (47.3%) thinks that additional protection is necessary for STD patients (Table 2).

Concerning attitude of lady health workers for STDs together with HIV/AIDS were noted as very poor attitude (15.2%), poor attitude (15.8%), fair attitude (42.7%), good attitude (18.4%) and excellent attitude (7.9%).

Table 2: Responses of LHWs about attitude on STDs

Attitude	**Yes**	**No**
STD patients should be isolated in hospital?	151 (47.9%)	114 (36.2%)
Would you sit next to someone who is STDs infected?	152 (48.3%)	95 (30.2%)
Would you sit next to someone who is HIV/AIDS infected?	169 (53.7%)	87 (27.6%)
If a person got infected with STDs, should he or she be allowed to stay in his/her work place?	173 (54.9%)	84 (26.7%)
If a person diagnosed with STDs should keep it secret?	111 (35.2%)	150 (47.6%)
Do you prefer to look after any person in your family who has STDs infected?	208 (66%)	42 (13.3%)
Every Hospitalized Patient should be tested for STDs?	242 (76.8%)	28 (8.9%)
Every pregnant lady should be tested for STD?	233 (74%)	28 (8.9%)
It is fair that a Health care provider can refuse to care STD patient?	120 (38.1%)	126 (40%)
STDs including HIV +ve peoples' name should be disclosed publicly?	127 (40.3%)	96 (30.5%)
Additional protection is necessary if STD including HIV+ status of patient is known?	149 (47.3%)	70 (22.2%)

Practices:

Upon asking about STD screening among participated LHWs, only 19 (6%) participants were already screened and the majority 232(73.7%) participants were not ready to take the STD

patient to the traditional healer for treatment. Total 151 (47.9%) participants thought that STDs can be prevented by limiting their sexual relations with their spouse only, however, only 129(41%) discussed STDs with doctors or health professionals. Only 87(27.6%) of the responders were informed that they or their relatives had STD. The participants of 222(70.5%) disagree with the idea that health care providers should refuse to treat STD patients. In the community awareness session, only 60 (19%) recommended to use contraceptives for extramarital relations. In all 249(79%) disagree to the point that males or females have more than one partner. Very few participants, 12(3.8%), took training on STDs including HIV/AIDS in the last 5 years. Almost 5.4% suggested that STD awareness activity programs including HIV/AIDS prevention in social facilities were covered (Table 3).

Level of practices among lady health workers concerning STDs as well as HIV/AIDS were put up as very poor practice (16.8%), poor practices (58.5%), fair practices (24.4%), good practices (0.3%) and not a single person was recorded as doing excellent practice.

The association of knowledge and attitude with marital status was found insignificant but it is surprisingly associated with the practices (<0.001). Education also showed insignificant association with all sections.

Table 3: LHWs' Practices regarding STDs

Practices	**Yes**	**No**
Have you ever been screened for STDs before?	19 (6%)	265 (84%)
Can you take STD patient to traditional healers for cure?	51 (16.2%)	232 (73.7%)
STDs can be prevented by limiting sexual relation to spouse only?	151 (47.9%)	118 (37.5%)

Have you ever been discussed by a doctor or health professional about STDs?	129 (41%)	138 (43.8%)
Have you ever been told by a doctor or health professional that you or your relative have STDs?	87 (27.6%)	184 (58.4%)
Do Health care provider should refuse to care STDs patient?	54 (17.1%)	222 (70.5%)
Do you tell the community members that if a men or women supposed to have a extramarital relations should he or she be using a contraceptive?	60 (19%)	215 (68.3%)
Do you think men or women could have more than one partners?	33 (10.5%)	249 (79%)
Have you participated in training on issues related to STDs including HIV/AIDS control in the last five years?	12 (3.8%)	275 (87.3%)
Are information and awareness activities conducted for STD including HIV/AIDS prevention in social facilities in the area covered by you or the health unit?	17 (5.4%)	270 (85.7%)

DISCUSSION:

Preventing the spread of Sexually Transmitted Infections/Diseases often require counseling of the patients and their partners by concerned health workers. In countries like Pakistan, STDs are considered a taboo, and females are relatively more comfortable being counseled by a lady healthworker, rather than a male counterpart. This study was conducted with an aim to assess the knowledge, attitude and practice about STDs among LHWs, since their awareness on the topic would ultimately translate to awareness of common man. An endemic region like Jacobabad was

considered, because during an endemic there are massive awareness campaigns, and the results of those campaigns can also be judged.

The study results showed that the majority (94%) LHWs stated they know STDs however, upon questioning only 5.4% were able to answer precisely, indicating lack of proper awareness and knowledge on the subject. This point was further established when the overall knowledge of LHWs was assessed, and it was found that 57.4% scored above 26,considered under average knowledge score. On the other hand, a study conducted in Nepal among Hindu population showed 86% of the study population knew about STD/HIV whereas in the Chinese population, level of knowledge regarding mode of transmission of STD/HIV was found relatively lower. The study results from Hindu population also showed a difference in attitude and practice through an increased use of condom to prevent STD/HIVs [8, 12]. In year 2009, the knowledge of LHWs was found improved from the previous survey [13] whereas the study conducted with the GPs showed inadequate knowledge as compare to the consultants [14, 15]

Around 70% of the study population were scored fair to excellent attitude and almost half of the responders stated that STD patients should be isolated. There were majority recommended for test to be conducted for every hospitalized patient and every pregnant lady. In 1994 GOP started a health program aiming to support basic healthcare, better health approach for female and children in interior [7] whereas the study results showed that very few participants (84%) had never gone through screening and none found to be in excellent category of practices. It was also reported that only 3.8% participants took part in STDs training during last 5 years and only 5.4% responders give information on STDs prevention. There were almost half of the responders aware with the sexual relationship.

Although the study data was collected from the one rural and uneducated area of Pakistan but with a significant number of people and were randomly selected [16]. The non-validated questionnaire was pre-tested in almost 5% of the total sample.

Education related to the relationship for preventing STD is fundamental part [17] and as per the study results, we found deficient training and education of LHW. They are the bridge for communication among community and health care [13, 18] and could play significant role in preventing STDs.

CONCLUSION:

The results findings showed that LHW should be equipped with the proper knowledge of STD's. LHW are in need of getting proper training on the practice as only 0.3% of the population involved in study had a good practice of STD's.

Consent

As per international standard or university standard, Participants' written consent has been collected and preserved by the author(s).

Acknowledgment:

The authors want to pay thanks to the following personnel for their support in the study.

1. Dr. Abdul Ghaffar (District Health Officer) was supported in coordination, and guidance by sharing valuable information sharing during protocol development and in further process.

2. Dr. Imtiaz Ahmed (Deputy District Health Officer RMNCH) and his all team provide massive support in field activities for data collection.

3. Dr. Shahkamal Hashmi (Program Director, MsPH, DUHS) supported overall trial and tool development.

4. Dr. Sandeep Kumar (Taluka health officer district Tharparkar Sindh) was supported in questionnaire proofing.

5. Syed Muneebuddin, M. Ali, Anisuddin and Shiza Khalid were supported in the formatting of the manuscript.

References

1. Organization WH. Key facts: HIV/AIDS. 30 November 2021.

2. Mir AM, Wajid A, Reichenbach L, Khan M. STI prevalence and associated factors among urban men in Pakistan. Sexually transmitted infections. 2009;85(3):199-200.

3. Kenyon C, Buyze J, Colebunders R. Classification of incidence and prevalence of certain sexually transmitted infections by world regions. International journal of infectious diseases : IJID : official publication of the International Society for Infectious Diseases. 2014;18:73-80.

4. Lederer AM, Laing EE. What's in a name? Perceptions of the terms sexually transmitted disease and sexually transmitted infection among late adolescents. Sexually transmitted diseases. 2017;44(11):707-11.

5. Organization WH. Key Facts: Sexually transmitted infections (STIs). 22 November 2021.

6. Prevention CfDCa. Effective HIV and STD Prevention Programs for Youth: A Summary of Scientific Evidence National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention 2010.

7. Hogben M, Collins D, Hoots B, O'Connor K. Partner services in STD prevention programs: a review. Sexually transmitted diseases. 2016;43(0 0 1):S53.

8. Khalil R, Chang MA, Naeem Z. Assessing knowledge of lady health workers regarding sexually transmitted infections in rural Pakistan. International Journal of Reproduction, Contraception, Obstetrics and Gynecology.5(10):3373.

9. Lavasani L. The Effect of the Lady Health Worker Program on Maternal Health and Family Planning Services in Rural Pakistan. 2012.

10. Bungay V, Kolar K, Thindal S, Remple VP, Johnston CL, Ogilvie G. Community-based HIV and STI prevention in women working in indoor sex markets. Health promotion practice. 2013;14(2):247-55.

11. Parimi P, Mishra RM, Tucker S, Saggurti N. Mobilising community collectivisation among female sex workers to promote STI service utilisation from the government healthcare system in Andhra Pradesh, India. J Epidemiol Community Health. 2012;66(Suppl 2):ii62-ii8.

12. Poudel M, Bhandari R, Uprety S, Chaudhari S, Giri R, Yadav A, et al. Knowledge, attitude and practice about STD/HIV AIDS among the health attendant staffs of a Tertiary Level hospital of Eastern Nepal. Health Renaissance. 2015;13(3):95-106.

13. management Op. Summary of results. Lady health workers programme. External evaluation of a national programme for family planning and Primary Health care 2009.

14. Hussain M, Khanani MR, Siddiqui SE, Manzar N, Raza S, Qamar S. Knowledge, attitudes & practices (KAP) of general practitioners (GPS) regarding sexually transmitted diseases (STDS) and HIV/AIDS in Karachi, Pakistan. JPMA The Journal of the Pakistan Medical Association. 2011;61(2):202-5.

15. Khandwalla H, Luby S, Rahman S. Knowledge, attitudes, and practices regarding sexually transmitted infections among general practitioners and medical specialists in Karachi, Pakistan. Sexually transmitted infections. 2000;76(5):383-5.

16. Steege R, Taegtmeyer M, McCollum R, Hawkins K, Ormel H, Kok M, et al. How do gender relations affect the working lives of close to community health service providers? Empirical research, a review and conceptual framework. Social Science & Medicine. 2018;209:1-13.

17. Maan M, Hussain F, Iqbal J, Akhtar S. Sexually transmitted infections in Pakistan. Annals of Saudi medicine. 2011;31:263-9.

18. Jalal S. The lady health worker program in Pakistan—a commentary. European Journal of Public Health. 2011;21(2):143-4.