

Review Article

Dealing with tuberculosis: factors of the tuberculosis medication adherence among marginalized communities: a scoping literature review

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ABSTRACT

Marginalized communities have a prolonged experience of Tuberculosis (TB) with high prevalence. The rationalization behind the high rate is often indicted due to low medication adherence and its cultural and economic aspects. This scoping literature review assessed the influencing factors of patient TB medicine adherence, examined the conceptualization of factors, and determined the gaps related to TB medicine adherence presented in the empirical studies. Three electronic databases had been searched for selecting relevant studies published from 2000 to 2020 March. Studies associated with original research, review, classical and comparative articles on infectious TB in marginalized communities were considered under selection criteria. Finally, thirty articles met the inclusion criteria throughout the Prisma flow diagram; charting table and study characteristics have formed; results were discussed based on the study findings. Indigenous people, ethnic minorities, migrant communities, homeless, prisoners, alcohol and drug users, foreign-born, the working class, sex workers, and immune-compromised individuals suffer more from TB than the mainstream population. The concept of TB medication adherence has been illustrated as a socio-cultural and economic problem, personal beliefs, and the TB recipient's practices regarding illness and health-seeking behaviors. Most of the studies focused on the subjectified experiences of people because the 'recipient's/ patient's perspectives' on medicine adherence were being viewed by outsider's approach. Few studies recommend prospective learning from the recipient's point of view; examine and conceptualize the political-economic factors for intensifying medication adherence. These records may use further to perform and estimate programs for better health consequences.

Keywords: Tuberculosis, Adherence to medication, Marginalized communities, Anthropology, Scoping review

INTRODUCTION

'Marginality' or 'exclusion' is reversible in particular socio-economic and political situations. An individual and community exclusion might be outlined by distinct perspectives like caste, gender, ethnicity, displacement, migration, health status, and profession. Lower health outcomes may transpire due to the influence of these overlay aspects. In the developing country context, distin-

guished socio-economic inequalities created systematic lower health outcome proportions for some populations.^{1,2} Worldwide, the marginalized community's experience of infectious Tuberculosis is rising high. Stop TB partnership language guideline (2015) illustrated that TB vulnerable communities endured structural inequalities; moreover, living with TB and being a member of a marginalized community combines critical systemic injustice that still remains unexplored.³ Among ten million people

worldwide, marginalized populations suffer most of the high TB burden; at least three million people didn't get the necessary healthcare as they are out of TB screening administered by TB care and prevention scheme.⁴

Many pieces of research found a considerable risk alliance between the spread of TB and living conditions; therefore, inmates, transients, and socially marginalized people are remarkably exposed in terms of TB situation.⁵ There are three significant concerns: particular medicine, quality healthcare, and medicine adherence response can give the sound, efficient inhibition for both contagious and non-communicable illnesses. This study aimed to identify the adherence to TB medication among marginalized communities presented in the scientific literature; clarify the influencing factors of patient adherence to medication that indict for the continuation of TB burden; determined the research gaps and examine data concerning adherence and health outcomes.

MEDICATION ADHERENCE

Many studies on TB adherence highlighted the chronic statuses; however, existing social forces that are underpinning the low or non-adherence medication behaviors demanded more exclusive learning on this issue. The socio-economic and political forces regulated several resources such as nutrition, medical care, or social and economic capital; besides, numerous policies might be executed due to those dimensions and regulation approaches.^{6,7} Defining adherence to long-time treatment by the WHO as “the extent to which the patient follows medical instructions” is a little bit insipid. The term ‘instructions’ implies the patient's passiveness to expert advice in the treatment process.² Throughout a TB treatment, adherence explained the prescribed dose of medicine which is required. Various studies conducted in the general population proclaimed that health outcomes will be poorer if adherence is below the highest level/standard, or not done in the best possible way.⁸ Data on poorer adherence means the high burden of the population is not receiving the full benefit of medications.⁹

METHOD

This study followed the methodological framework of the scoping review guided by Arksey and O'Malley for exploring influencing factors of medication adherence of TB in the context of marginalized communities from the existing literature.¹⁰

Identifying relevant studies

Three electronic databases (PubMed, ScienceDirect, and AnthroSource) had been searched for relevant studies published from 2000 to 2020 March. This study considered the cross-reference lists of primary studies and review articles for additional references; resulted in examining the

complex structural forces impacted on TB transmission, adherence and treatment. The set of keywords [(Anthropology and Tuberculosis) and ("Vulnerable group" or "Risk group" or "Marginalized people" or Health or "Infectious disease" or "adherence to medication")] has been used for databases; with the help of an additional filter search, the number of search concise in 1660 articles.

After applying inclusion and exclusion criteria, in total, 30 articles had selected for data extraction that are explained in the Flow chart diagram.

Study selection and eligibility criteria

Specific sources are admitted to include literature in terms of the research question: what are the factors influencing the adherence to TB medication of recipients? b. How the pattern of influencing factors (allied with adherence to medication) conceptualized? Articles were selected from relevant social science and anthropological studies, Social Science and Medicine, and Medical Anthropology studies. Articles that explored preventive and therapeutic intervention outcomes, the forms of socio-economic determinants of TB prevalence were selected to learn the interaction and intervention of complex structural forces impacted on TB transmission and progress to treatment.

Articles abstracts, articles without open access, books, book chapters, reports, and documents were considered inappropriate for this review. In the review study selection process, some articles were not included because paid journals proclaimed those. All of the selected articles were written in the English language; therefore, this study selection process abstained from many essential articles published in different languages. Other language experiences were beyond the researcher's capacity; besides, translating articles from other languages to English was not attainable due to the financial budget shortage.

Data extraction

For synthesizing and explaining key issues and themes of qualitative data, a charting profile was developed from selected primary studies following the 'descriptive-analytical' method¹⁰, which was very similar to 'narrative-review'.¹¹ A general analytical framework was applied for assembling conventional data from necessary research articles.

The data charting process strived to follow the consistency to classify the potential information required. A descriptive summary of the main results is coordinated based on the theoretical concept, as the central account of the theoretical idea is to strengthen the review.¹²

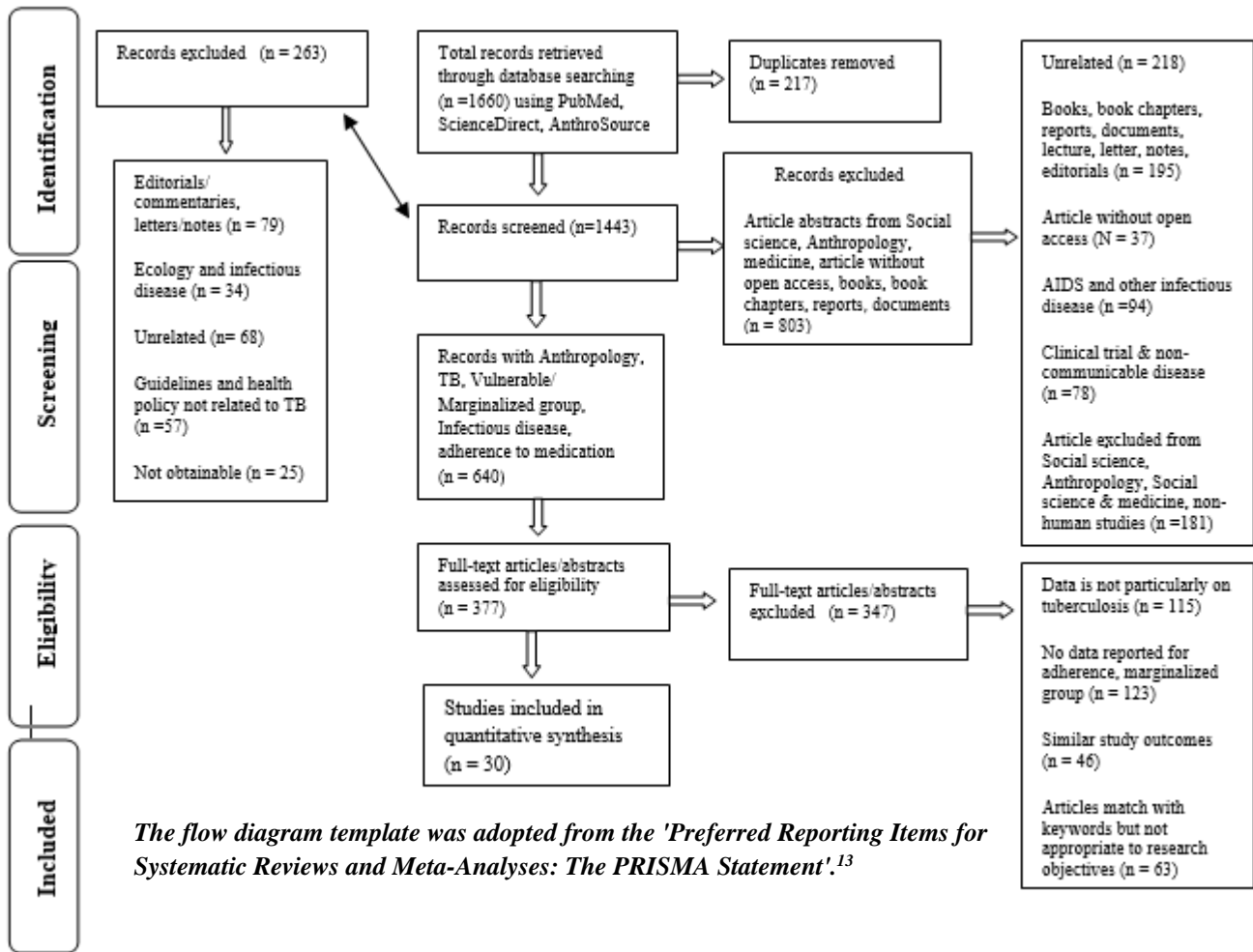


Figure 1: The prisma flow diagram.

Table 1: Study characteristics and findings.

Reference	Subject matter	Data collection method	Findings		Study area	Setting	Theory/ Model
			Strength	Weakness			
Hovell et al. (2003)	Identifying the indicators of isoniazid (INH) compliance in middle/high schools.	-286 Latino adolescents respondents, age 13-18. -baseline interviews completion.	Teenagers under supervision and social support, bicultural, and attention in studies, more confident to show compliance to INH.	Perceived obstacles to attending clinic appointments, attitude of the provider, stigma and economic factors were not identified.	Behavioral Epidemiology	USA	--
Shiotani and Hennink (2014)	Recognizing socio-cultural and gender effects on DOT adherence	34 In-depth subjective interviews	Financial variables, social and sex components, counting dietary standards, gendered social disgrace, family credibility and impact of service delivery have been distinguished on DOTs adherence.	Treatment plans were moreover on set days and times at clinics; an action plan is also needed to implement	Global Health	India	--

Continued.

Reference	Subject matter	Data collection method	Findings		Study area	Setting	Theory/ Model
			Strength	Weakness			
				that flexibility.			
Haasnoot et al. (2010)	Recognizing TB knowledge, attitude, and practice among Maasai, and understand the knowledge regarding conventional healer's role in diagnosis TB.	-Mixed method, 105 structured multiple choice questionnaire, 14 semi-structured and structured interviews.	-TB accepted as a punishment from God. Plants, roots, and bark can be use for taken care of TB. THs serve as family doctors role and play a key part in start and adherence to TB care.	No adequate data on socio-economic enforcement variables has been found, data regarding precaution and maintenance of TB in daily life not found.	Medicine health care	Tanzania	--
Moya et al. (2016)	Offering thoughts and cases of encounters and methodology of activism, collaboration and social mobilization to resolve the aberrations and disparities within the wellbeing of TB and HIV in underserved population.	-Participant observation -empirical experiences	-A person-centered education model of TB instruction is crucial for individuals affected by TB, family individuals and their social augment -The gap of the traditional medical model is failing to address socio-cultural and fundamental factors of health	--	Multi-disciplinary	Mexico	Person-centered education model
Buregyeya et al. (2011)	Revealing awareness and attitudes of the population, including various etiological concepts and the range of health-seeking choices that patients turn to and the	Qualitative study; 18 focus group discussions and 12 key informant interviews.	People consider TB to be infectious, but not carried by the wind. TB patients were regarded as seeking care late or delaying medication. -Poverty, stock-outs of medicine, fear of testing for HIV and the TB treatment cycles have a negative impact on health-seeking practices.	- Not sufficient to recognize variables related with TB. -In the sense of health-seeking actions, the health care infrastructure and the large economic	Public Health	Uganda	--

Continued.

Reference	Subject matter	Data collection method	Findings		Study area	Setting	Theory/ Model
			Strength	Weakness			
	reasons for their choice.						
Colson et al. (2013)	Reflecting a large-scale inquiry in clinics in terms of LTBI care.	Prospective cohort study, Multivariate regression models.	Patients working in health care, being already referred for medication, and thinking it would be problematic to take medication were showed non-adherence.		Epidemiologic Studies	USA and Canada	--
Pujol-Pujol-Cruells and Vilaplana (2019)	Considering TB from an anthropological view to specifically improve the TB patient's well-being and treatment adherence in the healthcare administration centre.	Floating observation (48 respondents); Participatory observation with unstructured interview, collaborative observation.	Social discriminations are associated with TB disease; individuals or family impacted by this discernment at every point. Socio-economic determinants of TB were explored.	Didn't conduct a related epidemiological ponder to perform an exact depiction of the examined populace, language or social circumstances.	Anthropology	Spa-in	patient-centered approach
Kan, Kalin, and Bruchfeld (2013)	Exploring the treatment failure of TLBTI, and its affiliated factors	Quantitative study, 415 respondents, logistic regression.	Somalian young age patients, refugees tended to be non-adherent; women are a potentially at-risk group as the treatment delay situation is increasing; cultural and economic barriers, language difficulties, and poverty influenced the adherence rate	Poor medicine compliance is an outcome of the destroyed Somalian healthcare system due to constant civil war. Health political-economic factors were not explored in this study.	Medicine	Sweden	A culture-oriented approach, cultural case management
Searle, Park, and	Exploring the positiveness	-Qualitative study, semi-	Treatment completion rate is	- The study not	Anthropology	New Zealand	patient-centered

Continued.

Reference	Subject matter	Data collection method	Findings		Study area	Setting	Theory/ Model
			Strength	Weakness			
Littleton (2007)	of an effectual patient-centered care strategy of DOT's in a low prevalence high-resource setting.	structured interviews, 09 samples. -participant observation.	100%; the approach to care was multi-dimensional; careful maintenance guided by the public health attendants. -Elderly patient- caregivers association was another key point to make the program succeed.	explained in detail TB-related stigma. People narrated that TB is not their local problem; it is 'other people's disease' or it's a disease from the past.			care approach
Chard (2009)	Exploring the TB condition and the negotiable therapy trails	- Cross-sectional study, Short interview, semi-structured interview, 89 samples.	Women are disadvantaged in a political-economic way, with no control over taking healthcare decisions. -Most of the private health centre provided services to the patients who come from the urban and semirural areas; the treatment is not cost-effective for the patients.	--	Anthropology	Uganda	--
Cremers et al (2016)	Analyzing influencing socio-economic, structural factors and patient's opinions accountable for TB treatment delay and non-adherence.	- Mixed-methods study, 300 respondents. - 30 IDIs, 06 FGDs. - logistic regression analyses.	-Non-adherence to medicine rate is only 10%; using faith healing, herbal, and biomedical TB knowledge; suffering from healthcare discrimination and TB related stigma; belong to impoverishment and malnutrition influence the treatment delay.	Data regarding the causes of treatment delay was not adequate, as it's evaluated only quantitatively, not qualitatively.	Multi-disciplinary	Zambia	--
Greene (2004)	Exploring the situation of TB medicine non-adherence in the Aymara-speaking community.	Detailed ethnographic study	Respondents use traditional medicines with anti-TB therapy. -They challenged by ethnic prejudice, health system discrimination, and poor access to care and transportation costs. - Culture-diacritic blocks to non-compliance; and structural violence were studied.	-Set of data of the study isn't adequate to understand the healthcare structure and dimensions.	Social Medicine	Bolivia	--
Marahatta et al (2020)	Studying the factors related to health access, investigation of disease, and	Qualitative study (in-depth interviews, FGDs, Semi-structured Interviews).	Lack of access to a health center, traveling costs, less knowledge of TB, believing in local healers are common factors to adherence.	The impact of poverty and the situation of treatment completion didn't	Health Sciences	Nepal	--

Continued.

Reference	Subject matter	Data collection method	Findings		Study area	Setting	Theory/ Model
			Strength	Weakness			
	adherence to TB medication.		-Treatment delay in TB is high, patients are socially stigmatized.	explore in the marginalized and ethnic communities.			
Edginton, Sekatane, and Goldstein (2002)	Assessing the views and practices of recipients and community people in TB and its impact on health services and compliance.	A descriptive study, structured quantitative interviews, FGDs.	<p>TB is considered as disobeying cultural beliefs, and lack of access to health assistance.</p> <p>-Only a conventional healer can treat the symptoms of TB.</p> <p>- Pollution, consuming alcohol, and smoking are responsible for TB, TB comes from western societies that makes people sufferer.</p>	<p>Study didn't focus on socio-economic factors that might affect treatment adherence and services.</p> <p>- There is no definite evidence of education program's effectiveness and on reducing the TB epidemic.</p>	Public Health	South Africa	--
Harper et al (2003)	Identifying influencing factors for the completion or collapse of the TB prevention and care management.	Qualitative study (40 FGDs, 46 semi-structured interviews, 77 in-depth interviews, 115 observation, 02 case histories).	The relationship among the health professionals and staff, people with TB, the community, the patrons, and policymakers are demonstrated.	-Only economic factors for adherence to medication were examined; the infrastructure of health service and patient-provider relation were not clearly explained.	Medicine	Gambia	--
Barnhoorn and Adriaanse (1992)	Identifying socio-economic determinants of non-adherence to medication.	- 102 respondents, using a questionnaire.	Differences between socio-economic determinants for people who showed compliance and non-compliance to medicine identified. Social support and family assistance strengthened a complete treatment procedure; lack of education and disposable income hinders the process.	The intersection of demographic and socioeconomic variables with compliance was not emphasized.	Health Education	India	--
Ito (1999)	Exploring the cultural factors of compliance	24 interviews, observation, ethnographic	The therapy's side-effect; the medicine 'hotness' and increasing body temperature	Why and how the socio-cultural base	Anthropology	USA, Vietnam	

Continued.

Reference	Subject matter	Data collection method	Findings		Study area	Setting	Theory/ Model
			Strength	Weakness			
	and non-compliance to TB chemo therapy.	interviews and FGDs.	explained as the reasons for non-adherence by the patients. -Perceptions of non-adherence of community, family, and relatives were explored.	of 'hot' side-effect of the medicine had originated was not explained.			
Manoharam et al (2001)	Analyzing the non-adherence factors in TB patients; psychiatric morbidity and patients' views were particularly examined.	Qualitative studies, 48 participants; CISR and SEMI interviews were conducted.	-Almost 20% of patients are suffering from depression leading to psychiatric morbidity. - A notable number of patients have no faith in communicable disease and do not fear of dying. - 25% of the patients showed non-adherence from five months of the treatment.	- Patients with non-adherence to medication were not interviewed.	Psychiatry	Developing countries	Explanatory model
De Dassel, Ralph, and Cass (2017)	Examining data of compliance, patient-provider perspectives on factors, and barriers in adherence.	Systematic literature review (47 articles).	Measuring compliance rates are not frequent. - Particular geographic, socio-economic, and cultural factors are responsible for decreasing adherence.	- Patients' understandings of their adherence comparatively less reported than providers -Study data and necessary information on the patient's prospect was not collected.	Public health	Multi-countries	--
Munro et al (2007)	Exploring hypotheses of changing behavior to treatment compliance, their effectiveness, and implications on advancing other approaches.	Systematic literature review	The effectiveness of hypotheses of changing behavior and their implications on advancing other approaches is not much noticeable. Some models are effective in promoting adherence to AIDS therapy, five central theories are examined.	- All hypotheses of changing behavior are not explained in this review. -The study reviewed academic research theories only.	Medicine	Multi-countries	--
Lee et al (2013)	Revealing a relationship between patient's educative guidance and adherence to TB therapy provided by	A pre-post-intervention study, 354 sample.	Adherence rate is more prominent in the intervention group than the control group. -Direct educative guidance from health providers promotes the adherence of patients to TB therapy.	This study approach isn't appropriate for utilizing in defaulter tracing, the intervention got 78% success,	Medicine	Bangladesh	--

Continued.

Reference	Subject matter	Data collection method	Findings		Study area	Setting	Theory/ Model
			Strength	Weakness			
	health professionals.						
Ailinger et al (2010)	The study analyzed the positive impression of a cultural intervention (CI) on LTBI therapy.	-Comparative clinical study (pre-experimental design). - 86 non-probability samples, 131 random clients' records of the comparison group.	- Adherence to the medication of the patients from the CI group higher than the other compared group. Cultural intervention model is encouraging for public health professionals to get a better adherence result.	Self-reporting of patients regarding pill-taking is considered an estimation of adherence.	Nursing	USA	Cultural Intervention model
Barnett et al (2013)	Assessing the view of healthcare workers and patients regarding social forces and barriers to adherence to ART medication.	A qualitative research, 12 study population, KIIs, in-depth interviews, Photo voice workshop.	- Consuming alcohol, fail in distance maintenance, pill weakness, not using protection during sexual activities, and fail to manage medication timely were considered as treatment barriers. Psychological and educative support, keeping all medical records and improving the professional behavior of healthcare staff are needed.	The study didn't focus on gender role and stigmatization in terms of patient-provider relationships.	Public health	South Africa	--
Gibson (2010)	Exploring the diverse perceptions and uncertainty regarding TB in Ju/'hoansi speakers community.	A case study with life histories, observation, interviews, GDs.	-The TB diagnosis is lengthy, participants have fair TB knowledge; traditional herbal plants used due to scarcity of TB health service. Patients with non-pulmonary TB and with a history of TB face insufficient attendance from health service.	The socio-economic aspects and legislative features of TB are overlooked by culturalism in the TB health program.	Anthropology	Namibia	--
Lin and Melendez-Torres (2017)	Reviewing the qualitative findings of TB treatment experiences of migrants from low-resource settings.	Critical Interpretive Synthesis (CIS), -systematic literature review.	Acculturation in patients and communities, association of health workers and migration policies has a significant influence on healthcare. -Negative Relational approach, Structural disorder, and policy rigidity act as barriers to patient's adherence.	The study is the first interpretive synthesis on migrants using the CIS method.	Social Policy and Intervention.	Multi-countries	--
Sarmiento et al (2013)	Determining the TB incidence and examined the TB transmission and care	-A descriptive study & health survey, Interviewing,	TB is considered as a body and spirit condition infected by sorcery. Patient's medicine compliance is impacted by several	Socio-economic and political factors of TB burden didn't explored.	Health survey	Colombia	--

Continued.

Reference	Subject matter	Data collection method	Findings		Study area	Setting	Theory/ Model
			Strength	Weakness			
	knowledge among indigenous communities.	717 participants. -Studies 10 indigenous communities.	economic, geographic, and cultural barriers.	-			
Shrestha-Kuwahara et al (2004)	Pointing out anthropologist's review on improving the effectiveness of TB prevention and care.	A systematic literature review	-analyzed socio-cultural aspects of researches in TB control - Covered patient-centered treatment models; theoretical concerns and extensive gaps correlated to TB control were explained.	- - Problematised the biomedical approach and recommended a multidisciplinary research framework for TB control.	Medical Anthropology	Developing countries	Multi disciplinary research framework.
Dest, Masango, and Nkosi (2018)	Evaluating the performance of the TB program.	-Mixed research design; questionnaire, laboratory performance and TB program data; interview of 10 informants, 2 FGDs. -random sampling method.	Lack of sustainable domestic funding and poor resource mobilization, lack of laboratory equipment, waste disposal materials and dedicated space for TB laboratory testing, TB human resource development. -stigma, poverty, and poor employment status explored as 'other 'determinant factors.	- - Gender is the only demographic factor that significantly contributed to difference in compliance; the study didn't explain underlying causes of this factor.	Health Studies	Lib-eria	Model of Donabedian
Khan et al (2019)	Exploring the drug resistance pattern, detailed management, treatment outcomes and factors associated with unsuccessful outcomes in MDR-TB patients.	- Multivariate binary logistic regression (MVBLR). - 186 MDR-TB patients.	Socioeconomic marginalization, stigma, deeply rooted gender discrimination and seek low quality care identified as factors. -delay and substandard care may result in faulty management of TB and consequently the emergence of MDR-TB.	-The study was unable to abstract information about the incidence and frequency of adverse events and treatment regimen modification due to adverse events, and its effects of treatment outcomes.	Pharmacy and Health Sciences	Pakistan	--
Kak et al (2020)	Exploring the overall TB disease	-Reviewed the published	-Identified several risk factors that are significantly	--	Public health	Bangladesh, Philippine	--

Continued.

Reference	Subject matter	Data collection method	Findings		Study area	Setting	Theory/ Model
			Strength	Weakness			
	burden, trends of program performance, effectiveness of diagnostics, and care-seeking pattern.	data from the most recent TB prevalence surveys conducted in three countries.	associated with having pulmonary TB. - Socio-demographic factors, including low level of income and unemployment, were positively associated with long patient delays.			s, Indonesia	

Table 2: Study characteristics (%).

Study characteristics (30 articles)	Quantitative n=06 (%)	Qualitative n=14 (%)	Mixed method n=05 (%)	Reviewed n=05 (%)
Publication year	--	--	--	--
a.1992-1999 (n=5)	--	02 (14.28)	--	--
b.2000-2009 (n=22)	01 (16.6)	05 (35.71)	01 (20)	02 (40)
c.2010-2020 (n=42)	05 (83.3)	07 (50)	04 (80)	03 (60)
Country	--	--	--	--
A. Developed**	04 (66.66)	03 (21.43)	--	--
b. Developing**	02 (33.33)	10 (71.43)	05 (100)	02 (40)
c. multi-country	--	01 (7.14)	--	03 (60)
Study design/ method	--	--	--	--
Quantitative studies	--	--	--	--
Cohort study	01 (16.6)	--	--	--
Logistic regression	02 (33.33)	--	--	--
Post-interventional study	01 (16.6)	--	--	--
Clinical study	01 (16.6)	--	--	--
Baseline interview	01 (16.6)	--	--	--
Qualitative study	--	--	--	--
Ethnography	--	01 (7.14)	--	--
Interview (semi-structured, structured, in-depth, FGD)	--	11	--	--
Observation	--	01(7.14)	--	--
Case study	--	01 (7.14)	05 (100)	--
Mixed method	--	--	--	05 (100)
Narrative/systematic review	--	--	--	--
Study area	--	--	--	--
Multi-disciplinary (n=02)	--	01 (7.14)	01 (20)	--
Anthropology (n=06)	--	04 (28.57)	01 (20)	01 (20)
Public health (n=11)	--	06 (42.86)	02 (40)	03 (60)
Medicine and Health care (n=09)	04 (66.66)	03 (21.43)	01 (20)	01 (20)
Epidemiology (n=2)	02 (33.33)	--	--	--

RESULT

Barriers to adherence

Elderly TB patient's response is comparatively low in terms of TB chemotherapy due to economic factors. Studies reported numerous factors of adherence to TB medication: monthly family income, medication schedule complicacy, starvation, and compromised immunity, high costs of transport, the hidden cost of treatment, buying

value-added food with high-protein and vitamins, and lack of financial aid during treatment.¹⁴⁻¹⁸ Social and demographic bases (low wages, lay-off), daily work schedule, and cultural factors like dietary traditions, religious duties worked as very essential influencing factors.^{17,19,20} Some pivotal roles to non-compliance occurred for poverty, malnutrition, social isolation, psychological health problem, cognitive/emotional beliefs, including self-efficacy; and lower knowledge regarding TB.^{19,21,22} Moreover, the infrastructure of houses such as

remote dwelling, overcrowd place, housing without proper ventilation, extended residing in a small crowded home were identified as other determinant factors.^{9,23} Studies estimated some structural barriers to health care. Delayed improvement, family tradition, drugs scarcity in clinics, costs associated with traveling, drug side effect, confusion about the health care system, length of time to complete treatment, Forgetting doses, complex dosing schedules, lengthy process of reporting, minimal access to a sputum smear microscopy diagnosis and pill burden forces patients to take service from traditional healers that may occur the non-adherence.^{9,14,16,21,24,25} Also, lack of skilled operator for using health materials, lack of medical equipment, the absence of health workers at health centers, and lack of patience to visiting healthcare center every day, and geographical barriers were identified as constraints to adherence, inadequate information, and mistrust of health assistants.^{16,18}

Adherence outcomes

Studies characterized some determinants such as continuous transmission, drug resistance, chronic infection, a delayed inspection of illness, problems taking TB medicine, inability to buy food to reduce medication-related complexities, and individual perception of disease that usually impacted adherence outcome and interrupted cases'.²⁷⁻²⁹ Higher TB knowledge scores of TB recipients and following clinic schedules conveniently mostly help to accept treatment.

Even the false belief of infecting from LTBI also motivates some people to get treatment. Active support from health professionals helped participants accept treatment, maintain privacy, continue employment, avoid stigmatization, and make life changes.³⁰

Attitudes and practices to adherence

One of the decisive factors for TB diagnostic suspension and medication noncompliance is TB-related stigma that is often misled through social imperatives. Studies examined a set of the community people's dogma in a 'western' type of TB. Participants of the studies uttered that ecological contamination, smoking or alcohol, and patients living with TB might spread that specific one.^{18,23,31} Recipients lose the social status and are humiliated for owning a disease correlated with unethical practices or behavior, which is the output of gendered social stigma and family reputation.¹⁷ TB infection is particularly a problem with Vietnamese refugees in USA; the rate of Vietnamese refugees with inactive Tuberculosis is 53.5%. The position and activities of family members and companions, community understandings of the medication approach, and side effects of the chemotherapy (pill-taking increases body temperature) and its cultural account influenced participants practice and attitude.³² Among the study participants, a fourth of patients discontinued medicine after five months, a third of them completed the full course.³³ Using alcohol, allergic to pills and pausing

medication, or forgetting to take pills were noted as personal apathetic to adherence by healthcare staff. Patients mostly used traditional medicine after noticing disease symptoms; etiological beliefs regarding conventional healers, and treatment may influence health-seeking behavior and compromises adherence.^{26,34,35} On the other hand, patients became impassive in continuing medicine due to pills' side-effects and misunderstanding the medication timing, experiences of missing medical records and non-professional behavior of health assistants.³⁶

DISCUSSION

Most studies were incorporated with socio-economic factors of medication adherence; still, the concept has been illustrated as a socio-cultural and economic problem, personal beliefs, and practices of the recipient regarding disease and health-seeking behaviors. Very few studies explained the concept of medication adherence from a political-economic perspective by criticizing the aspect of power, dominance, and hegemony of bio-medicine. For instance, a study indicated "racial capitalism" is the most potent influence than the policy of discrimination on the grounds of race (apartheid). The history of emerging racial capitalism and its fundamental political and economic transformations remain TB as a severe problem.³⁷ Researchers proclaimed that most of the research's epidemiological concern is still studying the primary importance of inter-individual distinctions at risk. Most studies were conducted in urban slums, rural areas, ethnic minority communities, immigrant communities in developing countries where full access to treatment service wasn't ensured. Without providing full access to recipients, indicting personal beliefs and practices as barriers of patient's non-adherence to medication for the continuation of TB burden is untenable, thus 'patient-related deficiencies' might not be patient's liability.³⁷ What structural forces make personal beliefs and practices as barriers should be explored more intensively.

Emphasizing the 'patient's/recipient's perspectives' on adherence to medication, nature of stigma, the structural condition of health service, health professionals' personal education and proper guidance can improve patients' medicine adherence even in low socio-economic settings.¹⁶ However, studies focused on people's subjectified experiences because phenomena were being viewed by outsiders. Only few qualitative studies reflected the complexity of multiple layers of factors (discussion responses to illness, political and economic factors that shape the meaning and experience of illness) affecting people's lives with TB. Adherence support strategies can help to achieve the efficacy of health professional aspects remain less explored. Indigenous people, ethnic minorities, migrant communities, homeless, prisoners, alcohol and drug users, foreign-born, the working class, sex workers, and immune-compromised individuals suffer health disparities due to marginality.³⁸⁻⁴¹ They are often affected by TB than the mainstream population, in both high and

low TB incidence settings. The medication adherence perspectives of scheduled caste patients remain unidentified in contemporary researches. Historically, the patients from scheduled caste live in cultural deprivation; hence, the discriminations associated with the process and structure of treatment adherence should be explored carefully.¹⁷ Disregarding the exploration of other social dimensions of health care delivery and overemphasizing cultural differences may create barriers in the perception of non-adherence in marginalized populations.⁴²

Addressing medication adherence in centering either cultural or fundamental difficulties is inevitable; however, political-economic factors could help identify more structural factors for shaping compliance, interactions between social structures and their cultural interpretations in future research.⁴³ Because deep-rooted social disparities exhibit the source of structural violence that provides human justice demolitions (e.g., infectious disease-related stigma), misguided the public health and makes barriers in promoting health infrastructure and strengthening the health system. Analyzing the social, historical, and political structures of the illness context could distinguish the significant structural violence and the way to restrain it.⁴⁷

RESEARCH GAPS AND RECOMMENDATION FOR FUTURE RESEARCH

Most of the study findings presented that multiple and significant cultural and socio-economic factors are highly responsible for the TB burden, and people living with socio-economic disadvantages are victims of the situation. The political-economic determinants of medication adherence in terms of exploring bio-medicine power, domination, and hegemony are not appropriately centered in the existing literature. This review considered this issue as a research gap. The underlying political-economic forces that transform into risks for a particular group of people and the way they process, and structured individual etiology, communication of disease remain less identified.

Thus, understanding the phenomena of marginalized people's experiences in dealing with TB; how and why socio-economic factors shape those phenomena need to be explored. Moreover, investigating the underpinning social-historical controls on patterns of behavioral alternative and population health remains defocused in developing countries.³⁷ Therefore, attention should be paid to the relative poverty of refugees in high-income countries, ethnic discrimination, the massive impact of continuing civil war on healthcare, and low clinical attendance.^{42,44}

CONCLUSION

Anthropological studies proclaimed that a complicated pattern of situational, fundamental, and operational factors control the form of medication adherence. Most of the time, the patients are incapable of overcoming this inevitability.⁴⁵ This situation gives a clear idea that the

agency actors are driven by the context, relational interaction, and biases in the dominant bio-medicine discourse of TB. Medical hierarchy, dependent relationship with prior to health, and dominance of the biomedical model reinforced the systematic injustice of TB treatment. As the combined biological and operational factors reinforce the TB overdrive and treatment barriers, therefore examining the interaction and intervention of this factor intersection is needed; still, there is a scarcity of empirical evidence on the issue that theories regarding improving medication adherence have efficacy and constructiveness.^{37,46}

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