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Medicine Non-Adherence: A New Viewpoint on Adherence Arising from Research Focused on Sub-Saharan Africa

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Abstract: Adherence is vital for medicine to have an effect, yet adherence is considered to be low, with approximately half of the patients not fully adherent. However, research into adherence tends to focus on quantitative analysis of performance, which fails to perceive how people are adherent in their many different environments. As a contribution to gaining a deeper understanding, interviews were held with thirty individuals in the UK, Egypt, Kazakhstan, and six countries in sub-Saharan Africa to understand their perceptions on adherence to a range of drugs, and these were compared with an existing well-regarded list. New or undocumented reasons for non-adherence were discovered. Reasons for non-adherence were consistent across both developing and developed worlds. A new viewpoint on adherence is suggested, which considers adherence to be a single act and therefore as an individual opportunity to be adherent, permitting greater focus on the enablers and inhibitors of adherence at any given point in time.

Keywords: medicine; adherence; sub-Saharan Africa

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1. Introduction

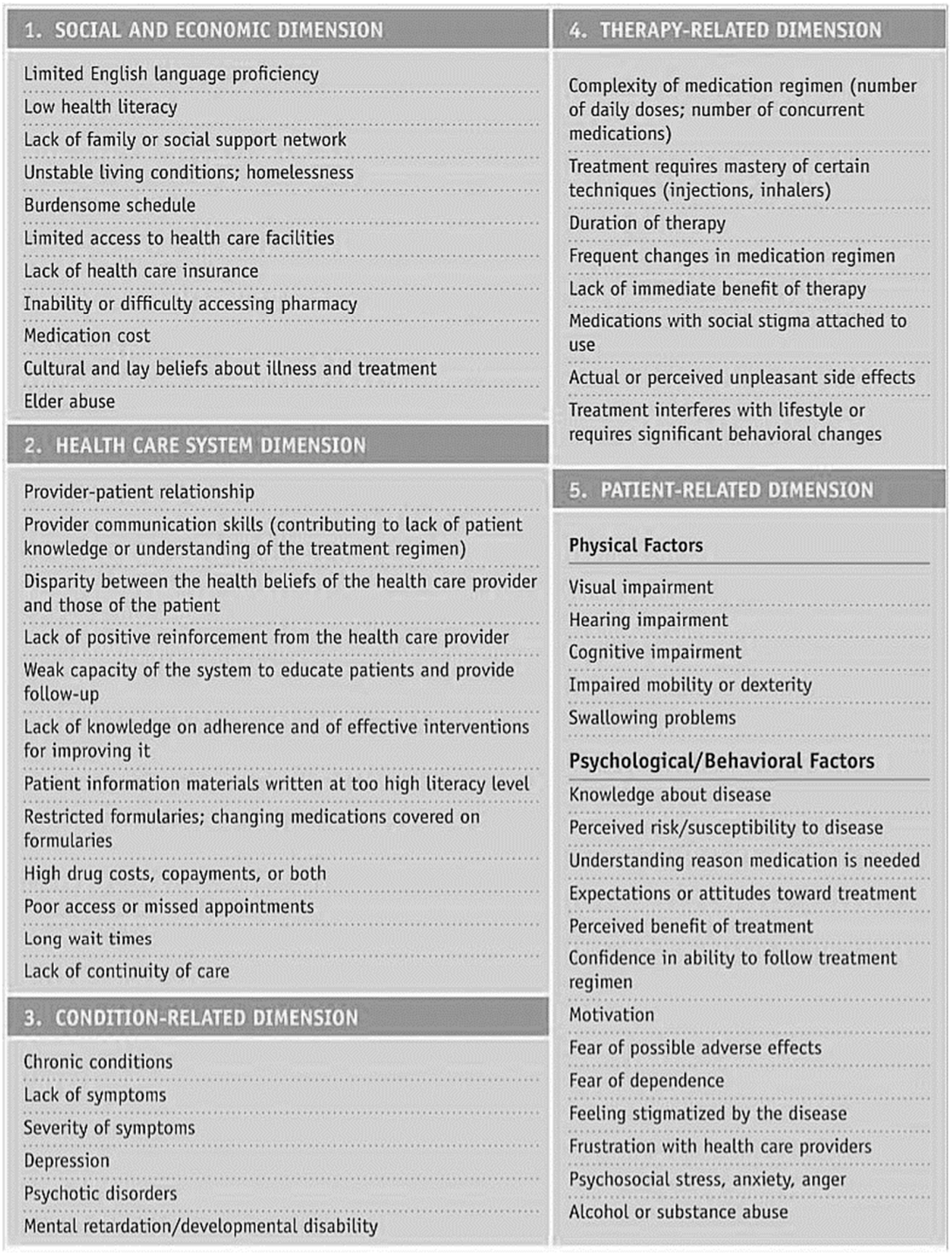
In his seminal 2003 report for the World Health Organisation (WHO), Sabaté [1] (p. xiii) said, "[Increasing adherence] may have a far greater impact on the health of the population than any improvement in specific medical treatments". Adherence to instructions for medicine consumption is a fundamental requirement for health. Indeed, McColl-Kennedy et al. [2] refer to it as "Comply[ing] with basics", yet non-adherence is a significant worldwide issue. For example, it has been estimated that 125,000 people die each year just in the USA as a result of non-adherence [3]; figures for other parts of the world are not known. In the developed world, half of the patients are not fully adherent to their prescription instructions [1,4,5], and it is thought that the proportion of non-adherence is higher in the developing world [1].

A significant amount of practical research has been performed on the issue of adherence [1,5]. Peterson et al. [6] found 95 studies on adherence. More recently, a narrative review [7] identified a total of 38 systematic literature reviews of adherence papers. A recent search of the MEDLINE database for the term "medicine adherence" revealed that almost 19,000 such papers have been published.

Sabaté's World Health Organisation report is a milestone in the field. Building on his work, another empirical report, "Adult Meducation: Improving Medication Adherence in Older Adults", produced jointly by the American Society on Aging and the American Society of Consultant Pharmacists Foundation [8], categorised 55 causes of non-adherence using the five "dimensions" of Sabaté's report: health system/HCT, social/economic, therapy-related, and patient-related and condition-related factors; see Figure 1.

There are limitations to the practical research performed so far. Firstly, most research has had a primarily Western focus and may not be completely applicable in the developing world. Secondly, there has been a concentration on age-related issues in the USA and HIV/AIDS-related issues in sub-Saharan Africa. It is, therefore, possible that further

important information on the causes of non-adherence, including details that may be specific to particular medicines or be geographically localised, still remains to be captured.



1. SOCIAL AND ECONOMIC DIMENSION
Limited English language proficiency
Low health literacy
Lack of family or social support network
Unstable living conditions; homelessness
Burdensome schedule
Limited access to health care facilities
Lack of health care insurance
Inability or difficulty accessing pharmacy
Medication cost
Cultural and lay beliefs about illness and treatment
Elder abuse

2. HEALTH CARE SYSTEM DIMENSION
Provider-patient relationship
Provider communication skills (contributing to lack of patient knowledge or understanding of the treatment regimen)
Disparity between the health beliefs of the health care provider and those of the patient
Lack of positive reinforcement from the health care provider
Weak capacity of the system to educate patients and provide follow-up
Lack of knowledge on adherence and of effective interventions for improving it
Patient information materials written at too high literacy level
Restricted formularies; changing medications covered on formularies
High drug costs, copayments, or both
Poor access or missed appointments
Long wait times
Lack of continuity of care

3. CONDITION-RELATED DIMENSION
Chronic conditions
Lack of symptoms
Severity of symptoms
Depression
Psychotic disorders
Mental retardation/developmental disability

4. THERAPY-RELATED DIMENSION
Complexity of medication regimen (number of daily doses; number of concurrent medications)
Treatment requires mastery of certain techniques (injections, inhalers)
Duration of therapy
Frequent changes in medication regimen
Lack of immediate benefit of therapy
Medications with social stigma attached to use
Actual or perceived unpleasant side effects
Treatment interferes with lifestyle or requires significant behavioral changes

5. PATIENT-RELATED DIMENSION
Physical Factors
Visual impairment
Hearing impairment
Cognitive impairment
Impaired mobility or dexterity
Swallowing problems
Psychological/Behavioral Factors
Knowledge about disease
Perceived risk/susceptibility to disease
Understanding reason medication is needed
Expectations or attitudes toward treatment
Perceived benefit of treatment
Confidence in ability to follow treatment regimen
Motivation
Fear of possible adverse effects
Fear of dependence
Feeling stigmatized by the disease
Frustration with health care providers
Psychosocial stress, anxiety, anger
Alcohol or substance abuse

Figure 1. The 55 causes reported to affect adherence [8]. Table republished with permissions from the American Society on Aging and American Society of Consultant Pharmacists Foundation.

This study investigates people's experiences of adherence in their lived lives, with the aim of exploring reasons for non-adherence and identifying new causes not documented so far. A series of semi-structured interviews was arranged with people who were willing to talk about their past experiences of taking medicines. They were located in various environments ranging from a comfortable urban environment in a developed country through to an impoverished rural environment in a developing country.

2. Materials and Methods

Interviewees were selected using purposive and snowball sampling [9]. Initial interviews were performed with six contacts in the UK to explore the situation in the developed world. Following that, twenty-four interviews were arranged with contacts in Kenya, Tanzania, Zambia, Zimbabwe, Uganda, Nigeria, and Kazakhstan. These were intended to explore the developing world, primarily sub-Saharan Africa. A total of thirty interviews were conducted over a period of just over five months from the end of December 2014 to early June 2015.

Semi-structured interviews were performed, either face-to-face or by telephone. Interviews generally lasted for 25–30 min. Tables A1 and A2 in Appendix A summarise the interviewees. All interviews were performed by the author in English. All those asked were willing to be interviewed and gave their approval via reading a Participant Information Leaflet and agreeing to the terms of a Consent Form. The questions asked are listed in Table 1.

Table 1. Semi-structured interview questions.

Number	Question
1	What medicine do you wish to share your experiences of?
2	Is this your first time with this medicine or is it a repeat prescription?
3	How far was it to a pharmacy?
4	How much did it cost you to buy the medicine?
5	Did you obtain the medicine?
6	If you obtained the medicine, how did you feel about it at the time?
7	Did you actually plan to consume it in line with the prescription?
8	Did you know how to take this medicine? How do you know?
9	Please describe your physical surroundings on various occasions when the prescription said you should consume. Who and what was there and not there?
10	What were you thinking and feeling?
11	How were your physical and mental health?
12	Did you actually consume at that time?
13	What helped you to consume or prevented you from consuming?
14	Is there anything about the medicine that makes it hard for you to take it? What would make it easier for you?
15	If you had the choice, how would you like to take this medicine?
16	Anything else you want to say about what makes it easy or difficult to take medicines for you personally?

Each interview was recorded and transcribed. A combination of Nvivo and manual means was used to code the transcripts. The general approach of Systematic Combining [10,11] was used to revise the initial framework based on empirical findings. Codes were analysed and a taxonomy of non-adherence was created. Further analysis was performed to compare the reasons for non-adherence discovered in interviews with the list of 55 reasons from the "Adult Meducation" report [8].

3. Results

3.1. Coding Categories

Tables A3 and A4 in Appendix B show phrases extracted from interview transcripts and how they were coded, looking separately at the developing and developed worlds.

Some examples of coding are as follows:

- Interviewee EG01 said, "...pharmacies in every street... just down the road from our flat", and this was counted as "Distance, Positive, Close", while interviewee UG01 said, "It's 30 km to and from, to the pharmacy. USD 10 [GBP 6.57] transport" which was considered to be "Distance, Negative, Far"
- Interviewee NG01 said, "Sometimes I'll take it according to the prescription but sometimes I stop when I feel better", which was coded as "Stop, Negative, Better", while interviewee KN03 said "They act like emergency for my family" which was coded "Stop, Negative, Keep"
- Interviewee KN08 said, "This tablets are in large sizes and so swallowing becomes a problem", coded as "Size, Negative, Big".

In this way, all relevant interview statements were captured and coded. Table 2 shows the coding derived from the interviews. As can be seen, not all categories have positive as well as negative attributes, but the focus of the interviews was on non-adherence and so this is to be expected.

Table 2. Coding of interviews grouped by category.

Category	Positive Attributes	Negative Attributes
Distance	Close	Far
Access	Easy	Hard
Cost	Low	High Herbal, low
Diagnosis		Foreign language, verbal
Instructions	Clear, verbal Clear, written	Foreign language, verbal Foreign language, written Unclear, verbal Unclear, written Misunderstood
Utensils		Missing
People	Present	Absent
Content		Unknown
Norms		Others, stigma
Branding	Known	
Beliefs	Others Confidence	Others, too dependent Lack of faith Foreign origin Profit, pharma Profit, herbal Value Pointless
Motivation	Last resort Stay well Get well	Tired
Stop		Keep Replaced by other Discarded Better Busy Run out

Table 2. *Cont.*

Category	Positive Attributes	Negative Attributes
Effects	Others Side, none	Others Side, general Side, specific Bad
Taste	Sweet	Bad Bitter
Formulation	Tablet Liquid Injection	Injection
Regimen	Acceptable	Unexpected Unacceptable Complex Forgot
Reminder	General Alarm	
Water	Present	Absent
Food	Present	Absent
Size	Small	Big
Smell		Bad
Course	Acceptable	Long
Routine	Present	Absent
Storage		Unsafe

As part of this work, surprises were found regarding the overall approach to adherence on the part of some interviewees. For example, some stopped taking medicine when they felt better even if it was an antibiotic; many struggled with tablets being too big to swallow or possessing a bitter taste; one commented on how the pharmaceutical industry was making profits from medicines; several were afraid of rumoured side effects. There was a wide spread of reasons for why adherence was not achieved.

3.2. Taxonomy

It proved possible to consolidate these reasons. Further analysis was performed to create a taxonomy of non-adherence categories, identifying five entities relating to non-adherence. Table 3 summarises this.

Table 3. Taxonomy of categories of non-adherence.

Taxonomic Entity	Categories
Patient motivation	Motivation
Patient agency	Course, routine, and stop
Patient beliefs	Beliefs
Consumption context	People, utensils, reminder, water, food, storage, and norms
Product affordance	Content, branding, effects, taste, formulation, size, smell, instructions, regimen, distance, access, cost, and diagnosis

In line with normal usage, in this analysis, "agency" refers to the capacity of individuals to have the power to fulfill their potential, "affordance" is a property of an object that

determines how it might be used, and "context" is the situation within which something exists or happens.

This taxonomy shows that motivation is just one cause of non-adherence, despite being the one that receives strong focus. There are more reasons for non-adherence relating to the medicine than there are to the patient, while the consumption context is critical to adherence. Summarising this, from Table 3, it can be seen that there are three factors at play in adherence: patient, medicine, and context.

3.3. Reasons for Non-Adherence

As well as identifying these three factors, the reasons given for non-adherence were assessed against the list of 55 in the "Adult Meducation" report [8]. Ten causes in the report were not mentioned in the research. These were of the type where the interviewee would have to expose themselves to what may be considered an unacceptable degree or which needed to be inferred by the interviewer in a face-to-face situation. Examples are "Mental retardation" or "Alcohol or substance abuse".

Table 4 shows the 19 reasons for non-adherence discovered in interviews which were not mentioned in the report [8]. While some of these might be obvious and anecdotally known, they have not been documented in formal research to date.

Table 4. Reasons for non-adherence beyond those documented in "Adult Meducation" [8].

Reason	Seen in Interview
Concern with medicine content	EG01
Verbal instructions in a foreign language	EG01
Written instructions in a foreign language	EG01
Pharmaceutical industry profits	EG01
Herbal medicine industry profits	EG01
Feeling better	KN03 UK05 TZ01
Lack of food	KN03 KN04 TZ01
Lack of water	KN08 UK01
Concern that medicine is of foreign origin	NG01
Lack of faith leading to need for medicine	TZ02
One medicine being replaced by another	KN03
Medicine kept for future occasions	KN03 NG01 TZ01 UK05
Medicine kept for family need	KN03 NG01 TZ01
Instructions misunderstood	UK01 KN05
Difference between written and verbal instructions	KZ01
Lack of routine	UK01
Lack of safe storage	TZ04
Forgetfulness	KZ01 TZ03
Run out of medicine	UK04

Similar causes of non-adherence were seen in both the developed and developing worlds. For example, a lack of food and water for taking tablets was referenced in both, yet this was not mentioned in the list of 55 causes. This suggests that interviews are of significant importance both to understand non-adherence reasons in detail and also to expand the list of known reasons.

4. Discussion

The qualitative research results have provided a rich view of adherence as part of people's lived lives in a range of environments from extreme poverty to relative comfort, across both developed and developing worlds. The results have extended our understanding of the phenomenon of non-adherence and provided insights into the range of causes beyond prior knowledge.

4.1. Broadening the Scope of Adherence Research

The categories derived from the interviews provide a valuable picture of the broad spectrum of factors which make up adherence in context. The taxonomy of entities leads to the conclusion that to understand adherence, we must consider the three aspects of patient, medicine, and context together. It has not previously been normal to bring all three of these into research at the same time.

For example, it is clear that motivation is an important part of adherence, yet it is just one factor among very many. The focus on increasing motivation in a lot of adherence interventions is potentially missing the wider perspective. Even simply considering patient agency and beliefs broadens the scope of intervention. Based on this research, considering agency as relevant to adherence would bring into view the topics such as the length of a course, the imposition of the regimen on the patient's routine, and the causes of stopping. Would it be possible to shorten the course or to reduce the number of doses per day? This would be an intervention on the product side which reduces the need for patient agency, thereby facilitating adherence.

Taking context and medicine into account could make an even more significant impact. Consumption context is a potential major area of investigation. This research identified seven categories of causes of non-adherence under the heading of context (Table 3): people, utensils, reminder, water, food, storage, and norms. Norms is a large area, raising questions of culture that then includes the effects of stigma on medicine consumption. But the issue of utensils, for example, could simply be addressed by providing a suitable spoon with the medicine.

The medicine itself is perhaps the area that could generate the largest potential improvement in adherence. Product affordance was a factor in thirteen categories of non-adherence including taste, size, and smell (Table 3). These could be addressed relatively simply by manufacturers if they were to take the issues seriously. Others might be more challenging but taking them seriously as causes of non-adherence could pay dividends.

4.2. Non-Adherence Reasons

The "Adult Meducation" report [8] documented 55 causes of non-adherence. This research uncovered 19 more. Many causes were seen in both developing and developed worlds, indicating that although root causes of non-adherence might be different in some cases, their manifestations are the same, for example, a lack of water, a lack of food, keeping medicine for future use, or misunderstanding the instructions.

Some causes of non-adherence would not routinely be considered in the developed world, for example, a dislike of supporting the pharmaceutical industry's profits, or concern that the medicine is foreign. However, it makes sense to consider shared causes because interventions might be globally valuable or make a particular contribution to poorer areas, such as keeping medicine for future use or for family needs. This implies that price and availability are relevant, but also, in consideration of "feeling better", a lack of understanding that some medicines must be consumed until the prescription is complete. As well as patient education, this implies the importance of providing clear instructions in a language that the patient understands and that is consistent in both written and verbal forms.

It may be seen that some of the factors of non-adherence are interrelated and can be traded off against each other. For example, if the affordance of the medicine is perceived by the patient as being inadequate in itself to permit adherence to take place, they may be

able to call on other resources from context and agency to overcome such inadequacy. If the medicine is bitter, then the patient may be able to use their agency to bring sugar into context to sweeten it. If it requires food to be eaten at the time of consumption and there is none available, then support may be obtained from an alternative source. These simple examples demonstrate the potentially complex interactions between adherence factors.

Some adherence factors are effectively "mirror images" of each other. For example, a patient's context may not be contributing sufficient resources to permit adherence, but if the medicine's affordance were to be enhanced then consumption might still be able to occur. Perhaps a patient's context cannot provide food or water, but if these could be incorporated into the medicine in some way then the patient may still be able to be adherent. Similarly, the patient's agency may be limited—perhaps not being able to open the bottle or swallow large pills—but enhancements to the medicine might address such limitations.

4.3. Unit of Analysis of Adherence

One important facet of this research is the focus on adherence as an individual act rather than an average of all adherence events for a single patient or even a cohort of patients. This approach has highlighted reasons for non-adherence rather than just measuring it.

A lot of research on intervention highlights the limited impact that interventions achieve. For example, when van Dulmen et al. [7] reviewed 38 systematic reviews, they discovered that only 45% of interventions resulted in improved adherence, and only 33% in improved outcomes. Many papers discuss the need for, or evaluation of, multiple forms of intervention to improve adherence rates. This is discussed in two reviews [6,12]. Kardas et al. [12] suggested in their review that "multifaceted interventions may be the most effective answer", but at the same time, they found that many of the reviewed papers reported mixed or limited success (for example [13–15]). Without an understanding of adherence enablers and inhibitors in patients' lived lives such as has been discerned in this research, it is not surprising that interventions have limited impact.

4.4. Intention and Reality

When adherence research incorporates a theoretical perspective, it tends to use expectancy-value models, usually the Theory of Planned Behaviour [16,17], for example [18,19]. The limitation of such theories is that they reach only as far as the intention to act. They hold an implicit assumption that intention leads directly to behaviour, overlooking the possibility that it is not always true. This research has demonstrated that motivation—the intention to act—is just one element of adherence and that there are many factors that can prevent it, including those relating to the medicine and operating within the consumption context. A new theory of medicine adherence is required which recognises this in order to make progress towards higher adherence levels.

5. Conclusions

5.1. The Triad of Adherence

It is normal in adherence research to consider dyads. There is the dyad of prescriber and patient, for example. But this research has brought out the importance of considering the whole picture of the triad of the patient and medicine in a consumption context. Looking at all three aspects allows the full picture of adherence to be seen. Understanding the three aspects and how they interact with each other as a system provides insights into reasons for non-adherence that cannot otherwise be discerned. This approach has uncovered new reasons for non-adherence.

5.2. Reasons for Non-Adherence

Nineteen new reasons for non-adherence were documented as a result of this qualitative research. At a time when much of the adherence research is quantitative, assessing adherence by percentage compliance with instructions, it is important to understand that people have multiple reasons for their non-adherence which cannot be captured quanti-

tatively. If we are to help people to become more adherent, we need to understand their circumstances. Putting all non-adherence down to a lack of motivation misses the point that this is just one of many facets. A deeper understanding of people's lived lives can identify interventions which might make a difference to compliance.

Reasons for non-adherence were remarkably consistent across the developing and developed worlds. Though caused differently, the outcomes were the same. For example, a lack of water at the time of consumption was identified in both sub-Saharan Africa and the UK as a cause of non-adherence.

5.3. Adherence as a Point-in-Time Opportunity

Considering all this, it can be seen that adherence is not a percentage figure but is achieved or otherwise each time consumption is due. It is either 100% or 0%. Understanding the point-in-time reasons for non-adherence will permit actions to be taken which increase the number of times when adherence is achieved, thus enhancing the effectiveness of interventions.

For example, sometimes water is not available and adherence cannot be achieved. Reformulating the medicine so that water is not a corequisite will address this cause of non-adherence. It may only be effective one time in ten but at that time it makes a 100% difference in adherence. Viewing adherence as a percentage of all consumption opportunities may overlook this point.

5.4. Learning for the Pharmaceutical Industry

The points mentioned above suggest that medicine formulations might be more intelligently designed, and that this might benefit people worldwide. A lack of water to consume a tablet in Kenya might be due to there being no water in the well, but a lack of water in the UK could be that the patient is a passenger in a car. Whatever the cause, non-adherence is the result. What steps can be taken to remove the requirement of water from the consumption context? Can the medicine be provided in another formulation, perhaps? Can water be provided with the medicine? The first question relates to the manufacturer, while the second could be answered at the pharmacy. They could be long-term and short-term answers or could depend on the medicine.

Considering some of the other reasons for non-adherence, we might apply the same line of thinking to the subject:

1. Lack of food: Can food be provided with the medicine? Can the active ingredients be incorporated into some form of food?
2. Bad taste: Can the medicine be sweetened in some way? Can the taste be masked?
3. Large size: Can the tablet size be reduced? Can the formulation be changed?
4. Bad smell: Can the formulation be changed? Can the smell be masked?
5. Lack of dosing spoon: Can a spoon be provided in the medicine packaging or by the pharmacist? Can the formulation be changed?

Considering the other categories identified, it seems reasonable to explore what the pharmaceutical industry can do to address medicine affordances in all the identified areas of content, branding, effects, taste, formulation, size, smell, instructions, regimen, distance, access, cost, and diagnosis. It may contribute to some of the contextual categories of people, utensils, reminder, water, food, storage, and norms. In particular, medicines which more completely address contextual challenges could be more successful in raising adherence than those which at present might be perceived as "one size fits all" or even "lowest common denominator". Some factors will prove to be out of the manufacturers' scope and perhaps more related to healthcare providers and pharmacies, but others might be easily tackled once they become the subject of some analysis.

Patient centricity is a goal for many in the industry, and taking this approach could enhance that focus. Using the insights gained from in-depth qualitative research could deliver new ways of supporting patients to be adherent, moving towards the goals of increased adherence and higher quality of life.

5.5. Research Limitations

The research was performed remotely. A more ethnographic approach might have both confirmed the remaining 10 causes of non-adherence present in the "Adult Meducation" report [8] that were not found in the research, and potentially uncovered additional causes through observation and interviews with family members, medical staff, etc.

Interviews in some countries were limited to just one. Further information may have been obtained with a greater number of interviewees per country.

This research considered only one developing country, the UK. Although this was not a focus of the research, which primarily addressed reasons for non-adherence in sub-Saharan Africa as a representative area of the developing world, investigation in other developed countries might have provided a richer picture of non-adherence reasons.

5.6. Opportunities for Further Research

It would potentially be useful to perform further qualitative research face-to-face with interviewees in their contexts. This should reveal a greater depth of insight and add further understanding of non-adherence in sub-Saharan Africa.

The same approach could be taken to explore adherence to products other than medicine. For example, a fitness regime or a smoking cessation course also requires the participants to be adherent. Considering adherence as a point-in-time opportunity would allow researchers to study the triad of the patient and the "product" in context to understand non-adherence in more detail.

Theoretical work on the development of a theory of adherence could pay dividends in increasing adherence. It would start from the position of recognising the complex dynamics operating between the elements of the triad of adherence and go beyond the focus on motivation to consider the holistic picture. Viewing adherence as a (complex) process where patient agency and medicine affordances come together into a consumption context would permit a deeper understanding of the interactions of the non-adherence categories in enabling or preventing adherence [20].

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Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki, and approved by the Biomedical and Scientific Research Ethics Sub-Committee of the University of Warwick Medical School on 26 January 2016 with code REGO-2014-1295.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study. Written informed consent has been obtained from the subjects to publish this paper.

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Appendix A. List and Summary of Interviewees

Local costs were converted to UK pounds in December 2015.

Table A1. Interviewee details.

Ref.	Sex	Age	Country	Medicine (Name as Given by Interviewee)	Cost	Location	Distance
EG01	F	20–40	Egypt	Cough medicine		City	Close
KN01	M	20–40	Kenya	Antibiotics	£0.03	Village	
KN03	M	40–60	Kenya	Amoxycilin		Village	1 km
KN04	M	20–40	Kenya	Malaria tablets	£3.23	Village	5 km/£2.59
KN05	M	60+	Kenya	Coartem	£0.13	City	Close

Table A1. *Cont.*

Ref.	Sex	Age	Country	Medicine (Name as Given by Interviewee)	Cost	Location	Distance
KN06	F	20–40	Kenya	Malaria tablets		Town	Close
KN07	M	20–40	Kenya	Pain killer, curatives	£0.66	Village	Close
KN08	M	40–60	Kenya	Malaria (AL)	£0.97	Village	2 km
KN09	M	20–40	Kenya	Panadol	£0.84	Village	2 km
KN10	M	40–60	Kenya	Chrotin B	£1.29	Village	6 km
KN11	F	20–40	Kenya	Quinine	£2.91	Village	2 km
KN12	F	20–40	Kenya	Flugone	£1.29	Village	3 km/£1.94
KN13	M	40–60	Kenya	Cold Cups	£0.32	Village	1 km
KN15	M	20–40	Kenya	Ibuprofen	£1.62	Village	2 km
KS01	F	20–40	Kazakhstan	Repronact	£2.09	Village	3.5 km
NG01	M	40–60	Nigeria	Artesunate	£1.49	Town	Close
TZ01	M	40–60	Tanzania	Coartem		Village	4 h
TZ02	M	60+	Tanzania	Paladrin	£1.53	Town	Close
TZ03	M	60+	Tanzania	for Stomach Abscess	£0.31	Town	Close
TZ04	F	40–60	Tanzania	Malafin, Panadol, Maleratab	£1.53	Town	10–15 min
UG01	M	40–60	Uganda	Quinine	£3.95	Village	30 km/£6.59
UK01	F	<20	UK	Roacutane, Erythromycin	Free	Village	5 km
UK02	M	40–60	UK	multiple	Free	Town	1 km
UK03	F	>60	UK	Metformin	Free	Town	1 km
UK04	M	>60	UK	Antibiotics	£8.20	City	5 km
UK05	M	>60	UK	for Angina	Free	Town	2 km
UK06	F	>60	UK	Sulfasalazine, Methotrexate	Free	Town	2 km
ZI01	F	20–40	Zimbabwe	Amoxycilin		Village	
ZM01	M	40–60	Zambia	Coartem	Free	Village	Close

Table A2. Interviewee summary.

Category	Value	Number of Interviewees
Sex	Male	11
	Female	19
Age range	<20	1
	20–40	12
	40–60	10
	>60	7
World—developing	Total	24
	Of which:	
	• Egypt	1
	• Kenya	14
	• Kazakhstan	1
	• Nigeria	1
	• Tanzania	4
	• Uganda	1
	• Zambia	1
	• Zimbabwe	1

Table A2. *Cont.*

Category	Value	Number of Interviewees
World—developed	UK	6
Type of location	City	3
	Town	9
	Village	18
Medicine	Antibiotics	5
	Cough medicine	2
	Malaria medicine	11
	Painkillers	4
	Other	8
Medicine cost	Free	6
	<£1	8
	£1–£2	6
	£2–£3	2
	>£3	3
	Unstated	5
Distance to obtain	<1 km	8
	1–2 km	11
	3–4 km	3
	5–6 km	4
	>7 km	2
	Unstated	2

Appendix B. Interview Coding

Table A3 lists coding with sample interview content and references for the developing world. Table A4 lists the same for the developed world.

Table A3. Interview coding, developing world.

Transcription Code	Interview Example	Ref.
Distance, positive, close	. . .pharmacies in every street. . . just down the road from our flat	EG01
	But if I need to get it from a pharmacy it's a km	
	I walk, I take one minute to get to the health centre	KN03
	Not very far. Just walk to get them	KN05
	It was 2 km away	KN06
	2 km from my home	KN08
	2 km from my home	KN09
	2 km from home	KN11
	About 1 km	KN15
	Pharmacy isn't far, about 10-min walk from my house	KN14
	Just nearby. Two minutes	KZ01
	Just a few meters. . . two minutes' walk	NG01
	Not too far	TZ02
	Only 10 min' walk to the [small] pharmacy. . .	TZ03
	when you want to go to the big pharmacy it takes about 15 min	TZ04
Instructions, negative, foreign language, verbal	I don't understand colloquial Arabic	EG01
Instructions, negative, foreign language, written	I think we figured out the written instructions	EG01
	. . .you really don't understand the reading	EG01
	. . .people who can't even read	EG01
Utensils, negative, missing	I don't think there was a spoon. I think we had to buy it separately	EG01

Table A3. *Cont.*

Transcription Code	Interview Example	Ref.
People, positive, present	Probably my husband was there sometimes	EG01
	Mum and my younger sisters were there	KN04
	It's better for someone to make sure you get the full dose	KN06
	Mother and brothers were there	KN09
	Grandmother was there with me as I have no parents	KN11
	I was with the physician only	KN13
	Family members	KN14
	With a friend	KN15
	My parents	KZ01
	My wife is the one who was always reminding me to take it	TZ03
Content, negative, unknown	. . .you really don't have a clue what's in it. . . [it's] at the back of your head that it could be anything	EG01
	I don't like taking medicine. . .because of the idea that it's chemicals. . . natural ones are better than synthetic	NG01
Branding, positive, known	I suppose the branding just makes you trust it more	EG01
Motivation, negative, last resort	I think I sort of used it as a last resort	EG01
	Just like when I'm really sick, I'm like distressed for getting better. . . makes me take the pills	KN03
	Urge to get healed	KN07
	I was physically weak and mentally disturbed. . . I felt desperate	KN08
	Totally disturbed. . . Eager to know its [effect]	KN10
	Felt hard to use since I don't like medicines	KN15
	I'd have taken anything	KZ01
Diagnosis, negative, foreign language, verbal	. . .would have helped if the person that we saw could speak English	EG01
Taste, negative, bad	Sometimes obviously the taste of the medicine	EG01
	. . .the taste of the drugs	KN03
	I don't like it. I don't like taking medicine because of the taste	NG01
	They don't taste well when you swallow them. Bad taste	TZ03
	[not completing the full dosage] is primarily caused by. . . difficulty in taking the medicine due to. . . taste. . .	ZI01
	I took one but couldn't take more because of the nasty taste	ZM01
Effects, negative, bad	. . .it's not good for you. . .	EG01
	Sometimes it can harm the body	KN10
	. . .if I take the medicine it weakens my body for some time	KN15
	. . .in fact the body constitution was changed. . .	TZ02
	The medicine itself was reactive. . .	TZ02
	. . .the Coartem seems to be a bit too much for me	ZM01
	I hear about these doctors saying about how conventional medicines affect the liver	ZM01
Effects, negative, side, general	. . .there's all these side effects. . .	EG01
	I don't like taking medicine because. . . there's side effects	NG01
	. . .taking tablets irritates them	TZ01
Beliefs, negative, others, too dependent	. . ."Paracetamol doesn't work for you because you keep taking it"	EG01
	. . .so I'll have to bargain for half a tablet of Paracetamol if my temperature is high as a kid, they didn't believe in medicine much	KZ01
Beliefs, negative, profit, pharma	. . .this thing about the pharmaceutical industry and how they're making profit	EG01
Beliefs, negative, profit, herbal	. . .the natural remedy people are also making their profit as well	EG01

Table A3. *Cont.*

Transcription Code	Interview Example	Ref.
Stop, negative, better	I wouldn't even [complete the course] if the GP said "make sure you finish the course"	EG01
	. . .after 3 days you feel like you're ok. You're like, "No I don't need to get more medicines then"	KN03
	Many people [stop when they feel better]	KN06
	Sometimes I'll take it according to the prescription but sometimes I stop when I feel better	NG01
	Sometimes I feel that I'm feeling better	TZ01
	When they see they're a little better they stop taking the tabs	TZ01
	. . .then I got well. . . feeling well before finishing the dose	TZ03
	When one takes the medicine and gets better maybe he feels fine, so it's difficult for him to finish the dose	TZ04
	And some, when they feel better, then drop the medicine	TZ04
	[not completing the full dosage] is primarily caused by early signs of healing. . .	ZI01
	For some, I think the moment they feel better they choose not to take any more	ZM01
Cost, positive, low	At the hospital sometimes we don't pay	KN03
	About 100 Tz Shillings [£0.03, $0.05]	KN01
	Ksh20 [£0.13, $0.20]	KN05
	Ksh70 [£0.47, $0.72]	KN12
	Ksh50 [£0.33, $0.52]	KN14
	Tsh1000 [£0.30, $0.46]	TZ03
	We go to the hospitals. They give out malaria tablets for free	TZ04
	For things like Coartem. . . they don't really charge	ZM01
Reminder, positive, alarm	I use an alarm for night	KN01
	Some medicines I have to put alarm on reminding myself not to forget this	KZ01
Taste, negative, bitter	It's. . . bitter	KN01
	I think there should be much. . . reduce the bitterness	KN01
	Some medicines are bitter this makes it hard to consume	KN07
	too. . . bitter	KN09
	Bitterness of the medicine. . . it is so bitter	KN11
	I hate medicine. They are bitter	KN12
	Reduce the bitterness. . . of the tabs	KN04
	It becomes easier to take if medicine is tasty. . .	KN07
	[Make them] a bit sweet	KN09
	Better something that is sweet	NG01
	Some are very, very. . . some are not sweet, you know. They're so sour. I think if maybe sweeter, then somebody can swallow it easier	TZ04
	And some, because the medicine is soooo bitter, drop it from taking the whole dose	TZ04
Size, negative, big	It's big. . .	KN01
	One is like the size of the pill	KN03
	This tablets are in large sizes and so swallowing becomes a problem	KN08
	The size is too big	KN09
	Size of this medicine is so big	KN11
	. . .at least the size of it should be moderate to make easier swallowing	KN01
	Reduce. . . the largeness of the tabs	KN04
	A bit. . . small[er]	KN09
	[not completing the full dosage] is primarily caused by. . . difficulty in taking the medicine due to. . . size. . .	ZI01
	. . .you swallow them and it feels like you haven't swallowed them and you wonder how you're going to take the next tablets. . .	ZM01
Formulation, negative, injection	I fear injections!	KN01
	I prefer medicines than the injection	KN03
	I prefer oral	KN07

Table A3. *Cont.*

Transcription Code	Interview Example	Ref.
Effects, negative, side, specific	I've read about side effects like your digestive system...	EG01
	Some people develop boils, others get sick, get weak, sweat a lot	KN01
	...now vomit...	KN03
	...I feel like vomiting	KN06
	...I could feel dizziness in me	TZ02
	...they take medicines and end up vomiting	TZ02
	...you become very tired	TZ04
	It makes me feel so dizzy, a lot of noise in the ears, chilling of the body, loss of appetite, sometimes vomiting. This makes [me] feel bad, dodge the dosage	UG01
	...even produce a smell when urinating or on the skin or in sweat...	ZI01
	Sick for a whole week and all that, the headaches, stomach stuff, the pains. I thought not to go through all that [by consuming the medicine]	ZM01
Taste, positive, sweet	The ones we have around here are very sugary so very easy for someone to take	KN03
	I liked it	KN14
Distance, negative, far	If I need to get from the hospital I have to go 4 km away	KN03
	5 km from home. Travelled by Nissan at a cost of ksh400 [$3.95, £3]	KN04
	...good pharmacy shops are not available in the rural areas	KN07
	Almost 6 km	KN10
	4 km from home	KN12
	3 km from home. Used a motorbike which costed ksh200 [£1.33, $2.06]	KN13
	The problem is the pharmacy doesn't open on Monday so we had to drive to her home about 3.5 km away	KZ01
	4 h [travel time]	TZ01
	It's 30 km to and from, to the pharmacy. $10 [£6.57] transport	UG01
Beliefs, negative, others, stigma	...when I'm there I'm not feeling comfortable to take the pills... so stigma itself can cause or make someone not to take the medicines... stigma is a major issue	KN03
	I sometimes I never just wanted to take medicine, because that I feared for stigma... sometimes when I wanted to take that medicine I could just hide	TZ02
	People are afraid of that stigma... when people have HIV and AIDS they always try to hide it from people	TZ02
Food, positive, present	Use of porridge	KN11
	Porridge	KN12
	I had eaten	KN15
	My mum was cooking	KZ01
	Yes [I have food]. Normally you have to eat for medicine	NG01
	I do take it with... porridge	TZ04
Food, negative, absent	If you don't have something to eat you won't take the drug... you have nothing to eat	KN03
	...take them after every meal. This was not possible due to poorness. We cannot afford 3 meals a day so it was hard to take the tabs in the afternoon...	KN04
	I did not take it at that time because I was hungry and tired	KN04
	No [I did not consume] I was hungry	KN11
	I wasn't getting enough food... I really felt that drug if I hadn't eaten	KZ01
	It's difficult to have enough food to visit the prescription	TZ01
	We Africans take some medicines with not enough food	TZ01
	They require a lot of drinks and eating well but we are poor we can't afford most of the requirements. Sometimes we have a single meal a day	UG01
Beliefs, negative, foreign origin	I don't like taking medicine because... it's foreign	NG01
Beliefs, negative, lack of faith	...if you don't have that [faith to be healed] then you'll have to take medicine	TZ02

Table A3. *Cont.*

Transcription Code	Interview Example	Ref.
Course, negative, long	. . .sometimes prescriptions take long time, many days for you to finish the dose	KN03
	I wished I could consume them once and over. . . I thought I would be given medicine to consume once and over. . . In general medicines are difficult for me to take. The dosage may be long	KN04
	It becomes easier to take medicine. . . does not taking too long	KN07
	To get relieved at once	KN09
	Others they are not following the information [from the doctor]	TZ04
	They take long to heal, it's a long dosage of 3–6 days	UG01
Stop, negative, replaced by other	. . .maybe going for other drugs to see if they treat quicker. . . I end up not taking the other dose. . .	KN03
Stop, negative, keep	They act like emergency for my family	KN03
	I keep it just in case I get a re-occurrence of same symptom. Then I take the leftover when I cannot get to buy another	NG01
	Here in Africa, many people. . . keeping a dose. . .	TZ01
Motivation, positive, stay well	I don't want to feel sick again tomorrow so I must complete the medicine	KN06
	If maybe I could default then I could have been maybe in danger	TZ02
	In general I think it's good for taking all malaria tabs because if you don't. . . then you can feel worse when malaria attacks again	TZ04
Motivation, positive, get well	Hopes came with the medicine. . . I used my illnesses as a reason to take it right away	KN13
	I knew soon I will be well	KN14
Effects, positive, others	Also, experience from other people. If maybe my [family] used the same drug and she got well, definitely that helps me to finish. . .	KN03
Regimen, negative, unacceptable	You realise it's hard for me to wake up in the midnight to take pills	KN03
	Personally I go for prescription guidelines [as cause of failure]. They easily make me not to finish the prescription	KN03
	And with the tablets, they feel like there's too many	ZM01
Cost, negative, high	Ksh500 [$4.95, $3.75] was the cost of the medicine	KN04
	Ksh150 [£1, $1.53]	KN08
	Ksh130 [£0.87, $1.33]	KN09
	Ksh200 [£1.34, $2.05]	KN10
	Ksh450 [£3.01, $4.60]	KN11
	Ksh300 [£2, $3.09] to buy the medicine	KN13
	Ksh250 [£1.67, $2.57]	KN15
	Fairly expensive for Kazakhstan. . .about £3–4. . . they tend to look at how you're dressed	KZ01
	450 Nira [£1.49, $2.27]	NG01
	. . .malaria medicine is not affordable to a lot of people. . .	NG01
	Tsh2000, 5000 [£0.58, $0.91; £1.46, $2.27] depending on the quantity	TZ02
	. . . but mainly in hospitals there are less malaria tabs so most people go to buy them in the pharmacy. . . there are some tablets from India, there are some tabs from Western countries and then there are some tablets from the local, from within the country. So within the country you can find them at tsh1000 [£0.29, $0.45]. And then tabs from outside the country goes to tsh3000 [£0.88, $1.36] to tsh5000 [£1.47, $2.27]	TZ04
	. . .some cannot afford the full dose	TZ04
	$6 [£3.94] medicine	UG01
Instructions, negative, misunderstood	I know how to take Coartem. . . we take two tabs, two times a day	KN05
Instructions, positive, clear, verbal	They explained it clearly how to take it	KN05
	I knew. . . by listening	KN07
	My teacher told me to follow the doctor's prescription	KN11
	. . .the doctor showed me the correct way	KN14
	I just listened to a doctor so that I can follow what he has told me	TZ01
	I followed the instruction given to me by the doctor	TZ03
	I realised its importance. . . after being taught the effects of that medics when taken wrongly	UG01

Table A3. *Cont.*

Transcription Code	Interview Example	Ref.
Course, positive, acceptable	I take it up to the last one	KN05
	I take it until I use all the tablets	NG01
	I do follow the information	TZ04
Effects, negative, others	I just see them, they want to go vomit	KN06
Stop, negative, discarded	They throw it away, because you can't go on taking the medicine	KN06
Access, negative, hard	. . .with curative I found after going to various pharmacy shops	KN07
	I did not obtain the medicine [until]. . . the third shop	KN08
Formulation, positive, liquid	Personally I would go for liquid	KN03
	People around here with children they like syrups	KN07
	If they can convert this tabs into syrup. . . the better	KN08
Regimen, negative, unexpected	I could not actually imagine there will be a prescription or directive on how to take the medicine. . . I thought I could just. . . consume regardless. . .	KN08
	I thought I will get better at that moment	KN11
	I get a medicine to drink once and get cured	KN13
	I had planned to take large amounts	KN14
	It was not in my plan to consumer it according to the prescriptions. . .	UG01
Water, negative, absent	The medicine was to be consumed. . . with a lot of water which I did not have sufficient of. . . I lacked water. . . I was thinking of taking the medicine without water	KN08
People, negative, absent	There was no body. . . No [I did not consume]	KN08
	On my own. . . No, I stopped	TZ04
	[not completing the full dosage] is primarily caused by. . . difficulty in taking the medicine due to. . . lack of monitoring of the sick by fit family members	ZI01
Smell, negative, bad	This medicine has a smell and this smell surely disturbs me a lot when taking the medicine	KN08
	Some medicines do emit a pungent smell that will cause nausea and vomiting. . . [Is the smell sufficient to stop taking?] Yes bro absolutely! As soon as you open the package you actually feel the strong smell	ZI01
Beliefs, positive, confidence	I had confidence that it will relieve my pain	KN09
Water, positive, present	Water helped me to consume	KN09
	Water. . . helped	KN11
	Water	KN12
	. . .with a lot of water. Yes, I have enough water	TZ03
	I do take it with tea. . .	TZ04
	Yes, yes. I have access	ZM01
	Yes, my eldest sister, they take their medicine with Coca-Cola	ZM01
Formulation, positive, injection	[Easier] through syringe	KN09
	I prefer the injection before because I don't like the taste of medicine	NG01
	. . .in the east region [of Africa] there are some people. . . the majority. . . who prefer injections. . .	TZ02
	The other [sister], they prefer the injections to tablets	ZM01
Beliefs, positive, others	I had been informed about its advantages	KN10
Instructions, negative, unclear, written	So even though the packaging said something else, the doctor specified "something something 3 times". I had to ask my parents to decode the curvier writing. [without that] it would have been a bit of a guess	KZ01
Regimen, positive, acceptable	I didn't mind for instance at night-time to wake up	KZ01
Regimen, negative, complex	[Prefer] once per day	KN12
	[Prefer to] take many dosage for a quick recovery	KN14
	I would like to take it whenever I go to bed	KN15
	I had to make sure that they eat in the morning. . . the first two tablets of the day were regular and then not	KZ01
	When I go to the clinic, I just get the diagnosis and I go for other medications. . . there were too many tablets. So I took my pawpaws and I was ok in 2 days. The malaria was all gone	ZM01

Table A3. *Cont.*

Transcription Code	Interview Example	Ref.
Regimen, negative, forgot	And then once I forgot, I misplaced it, so I missed it	KZ01
	The time I forgot to take it. I repeated the dose that I did not take	TZ03
Instructions, negative, unclear, verbal	So it was a very vague direction so I didn't assume that it was critical	KZ01
Routine, negative, absent	. . .if your day gets mixed up with night and you're really not sure any more what to stick to	KZ01
	That occurs so much in Africa! Maybe you can miss in that case in the evening, or forget in the morning and then take in the afternoon then miss in the evening, or someone can take 6 at once!	TZ04
	. . .some people I know only take them in the night	TZ04
Routine, positive, present	I tend to be pedantic about those things. . . I've been given a task. . . I'm going to do this. . . I might as well do it properly	KZ01
	I try as much as possible to get it at home. After my meal, my breakfast, and when I return from work	NG01
	I make sure that I am in the house	TZ01
	I just started following the prescription strictly. . . I was at home	TZ02
	I remember if I want to eat I have to take medicine	TZ03
	[Are you always at home?] Yes, it is	TZ04
Cost, negative, herbal, low	. . .the herbal [malaria medicines] are very cheap	NG01
	. . .medicines from China. . . food supplement. . . cheaper	NG01
	Or if you don't have money you just can take some local medicine	TZ04
Beliefs, negative, value	Sometimes they say that the tablets are weak	TZ01
Stop, negative, busy	I was occupied maybe from work	TZ03
	Because maybe they're occupied	TZ03
Storage, negative, unsafe	. . .maybe the people being lazy can just put them where children are reaching and then the children can consume them. . . it can be more dangerous	TZ04
Stop, negative, run out	. . .some cannot afford the full dose	TZ04

Table A4. Interview coding, developed world.

Transcription Code	Interview Example	Ref.
Distance, positive, close	Walk. . .	UK02
	We don't live too far away, about half a mile	UK03
	10 yards. The doctor's and the chemist's are together	UK04
	About a quarter of a mile	UK05
	About a mile	UK06
People, positive, present	[What made applying it possible?] Someone else did it	UK01
	Obviously have breakfast together and dinner. . .	UK02
	. . .with the family	UK04
	I took the responsibility on so she didn't have to think about it	UK04
	Yes. "Have you taken your tablets?"	UK05
Content, negative, unknown	I wouldn't want to be putting a lot of stuff into my body that I didn't know what it was doing	UK06
Motivation, negative, last resort	I never want to take drugs. . . only because he said to take them I took them	UK04
	I was sad that I was prescribed it for the illness I was said to have, but I took it	UK05
Stop, negative, better	I don't take the prescribed dose every day. . . I can go a fortnight without taking them. . . when I haven't got the symptoms I'll knock them. . .	UK05
	I'll take them for several days until I notice it's subsided and then I'll stop	UK05
Cost, positive, low	[They're all free?] Yes	UK01
	[It didn't cost you anything?] No	UK03
	Fortunately [wife] had an exemption. . .	UK04
	Free	UK05
	[You don't have to pay?] No	UK06

Table A4. *Cont.*

Transcription Code	Interview Example	Ref.
Instructions, positive, clear, written	[Easy to understand?] Yes	UK01
	It was written on the doctor's prescription. And a copy on the packet	UK03
	I think the label on the tablet bottle said that	UK04
	. . .it has a little leaflet inside	UK05
	Because it was on the box that the tablets came in	UK06
Size, negative, big	The Sulfasalazine are quite large and hard but no, no problem. . . just the size, but as long as my tea is not too hot	UK06
Food, negative, absent	Sometimes when I remembered there wasn't another chance to eat	UK01
Stop, negative, keep	I don't feel any ill effects by not taking them. . . I've got those in stock that I can draw on if I need	UK05
Motivation, positive, stay well	I don't want to have any problem coming up because I've forgotten to take them or decided not to take the medicine he's prescribed. That would be foolish	UK02
	And from starting to take those tablets I have had no swelling and no pain. I still take them	UK06
	I was extremely grateful that there was something I was being given to keep down the. . . pain, and it did	UK06
	I don't want to risk a return to the swelling and pain. . . I would not risk stopping taking them	UK06
Motivation, positive, get well	[Positive results encouraged you to carry on?] Yes	UK03
	I was happy because it would take away a lot of the pain	UK04
	The results were absolutely magical, marvellous, a miracle	UK06
Regimen, negative, unacceptable	I didn't put it on my back very often because it was hard to get to. . . I had to clean it before, so that was annoying as well	UK01
Cost, negative, high	Yes, £7 or whatever	UK04
Instructions, negative, misunderstood	It said take 2 twice a day but I didn't know what that meant	UK01
Instructions, positive, clear, verbal	I think he must have said "take one per day", which I did every morning	UK03
	I was told how to take them	UK05
Course, positive, acceptable	[Take in accordance with the prescription?] Yes	UK01
Water, negative, absent	Sometimes. Not always	UK01
People, negative, absent	[And when you didn't apply it you were on your own?] Yes	UK01
Water, positive, present	[. . .take them all with water?] Yes	UK02
	I took it with a drink	UK03
	. . .with a cup of tea	UK04
	Water	UK05
	. . .with a cup of tea	UK06
Regimen, positive, acceptable	. . .breakfast time is set and teatime is set so twice a day fits in quite happily with that	UK04
	I didn't need to take one 3 times a day. I could take the 3 at breakfast time	UK06
Regimen, negative, complex	I had to take it with food 8 h apart, an hour before I ate. . .I had to take it during the gap between my lessons before lunch but that's actually 50 min. . . and then on the bus as soon as I got on, for tea. . . there were a lot of times I actually forgot	UK01
	[If you had a choice of how to take. . .?] I'd say not with food	UK01
	Especially the hour before food, you don't know when you're next going to have food	UK01
	. . .it was a real concoction of working out what she needed at each time so I devised a spreadsheet	UK04
	It was something that sounds simple but was such an onerous task day after day	UK04
	You might have run out of 50 s but you've got 25 s so you give three 25 s or combinations of. . . it was an absolute logistical nightmare	UK04

Table A4. *Cont.*

Transcription Code	Interview Example	Ref.
Regimen, negative, forgot	Perhaps very very occasionally if we've been out to a late dinner. . . I might have forgotten	UK02
	Well very rarely	UK03
Instructions, negative, unclear, verbal	. . .and the pharmacist might have grunted that at me as he passed it over	UK04
	Initially, yes, but everything was so fluid. . . that it became evident that it didn't really matter too much	UK04
Routine, negative, absent	. . .change in routine, like on a weekend. . . or I was staying in someone's house, I'd forget to take it	UK01
	. . .but if we ate upstairs or in a different room I wouldn't take it	UK01
Routine, positive, present	. . .one in the morning and one at night. Getting up and going to bed. Part of the routine. . .	UK01
	Just sort of when getting up or going to bed it jogged my memory	UK01
	I put it in the dining room because I had to take it with a meal	UK01
	I take certain ones with a drink with my breakfast or before my breakfast, and I have some. . . in the evening also before I take a drink	UK02
	I fill the containers. . . for 7 days. . . [then] I don't forget them. . . I'm capable of remembering what should be in each	UK02
	I always took the packet out and took it with my breakfast	UK03
	So it was quite easy as long as I'd got them with me	UK03
	In the morning with breakfast with a cup of tea. . . evening meal again with a cup of tea	UK04
	In a morning [At breakfast?] Yes	UK05
	[Do you have them in a box with flaps?] Yes. [Does that help?] Very much so	UK05
	I got a little box with a week of separated compartments. . . I don't have to think about it in a morning	UK06
	At the breakfast table	UK06
Stop, negative, run out	We had to eke them out instead of having like 2 tablets twice a day we had to have 1. . .	UK04
Access, positive, easy	Mum picked it up	UK01
	Walk, or perhaps drive in if I'm going to town. . . it's a standing order. . . it's very simple	UK02
	Collected from Boots. . . they have an arrangement by which you collect regular medicines	UK03
	[It wasn't inconvenient?] No	UK03
	We just go and pick it up from the chemist	UK05
	It could be delivered to me but I'm usually out. . . so I call	UK06
Motivation, negative, tired	[When you didn't apply it, you were. . .?] Tired	UK01
Beliefs, negative, pointless	There didn't seem to be a lot of point [in consuming]. . .	UK01
	I don't know really what I'm taking tablets for. . . I doubt his diagnosis actually. . . If I've no pain then I don't need it preventing	UK05
Reminder, positive, general	Some kind of reminder, especially when I'm staying over	UK01
Instructions, positive, compliant	I have been advised by my doctor to take these. . . and therefore I'm quite happy to take whatever he has prescribed. . .	UK02
	I just do as I'm asked to do	UK06
Formulation, positive, tablet	No it was very simple as it is, in foil	UK03
	In my case, no. They're just tablets	UK04
	[wife] was always very good at swallowing tablets	UK04
	I find tablets pretty easy	UK05
	[What you've got is fine?] Yes	UK06
Size, positive, small	[Any problems?] No. [Small enough?] Swallow them down	UK05
Effects, positive, side, none	[Any side effects?] Not to my knowledge	UK06

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